THE ROLE OF TOURISM IN NATURAL RESOURCE MANAGEMENT IN THE OKAVANGO DELTA, BOTSWANA

BY

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ABSTRACT

In recent years the use of tourism as a development strategy by Third World governments has increased, resulting in the intersection of international tourism and local resource utilisation patterns. The aim of this thesis is to critically assess the impact of tourism in the utilisation and management of natural resources in the Okavango Delta in Botswana. More specifically, the study appraises the current state of tourism and natural resource utilisation and management in the Okavango Delta; assesses the past and present forms of resource utilisation practised by the local inhabitants scattered throughout the Delta area; focuses on the implementation of government policy regarding resource use; highlights past and present relationships between tourism and resource utilisation; and examines the impact of tourism on the areas resources, environment and local inhabitants.

Research has shown that the Okavango Delta, which is Botswana's primary tourism area, is faced with a number of social, economic and environmental challenges. These include extreme levels of poverty, especially in the rural areas; lack of infrastructure; competition over land and resources; growing regional inequality; social degradation; increased imports leading to foreign exchange leakages; changes in subsistence strategies and increased 'rural-urban' migration; and the loss of control of the region by the local population to the global tourism system. The Okavango Delta is in the process of undergoing a change from traditional, rural, subsistence economies and livelihoods to capitalist, commercial-driven economic structures. In the Okavango Delta, as in many places around the world, people are in the process of being integrated into national level political, social and economic institutions, both within and outside of their control. The creation of employment for the local population, the sustainable use of the Delta and its resources, the development of the local agricultural industry, the continued growth of the tourism industry, and striking a balance between the conservation/preservation of the Okavango and meeting the water requirement needs of Angola, Namibia, and Botswana's growing populations are amongst the key concerns present in the area.

Tourism in the Okavango Delta is directly dependent upon the utilisation of the region's natural resources of wildlife, water and natural vegetation areas for the industry. As such, tourism has increasingly impacted upon the way, and degree to which, these resources are managed and utilised, hence being identified as a key factor effecting the resource sector. If the Government of Botswana is to develop a tourism industry which fosters environmental and natural resource preservation, rather than maintaining a heavy dependence on limited and fragile resources, a better understanding of the relationship between the two sectors is necessary. Enhancing the positive linkages between tourism and natural resource utilisation in the Okavango Delta region represents an important means to stimulate increased natural resource and environmental protection, and improve the distribution of tourism benefits to rural communities.

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LIST OF ACRONYMS

ACP	Africa, Pacific and Caribbean Nations
ADP	Agricultural Development Policy
AE 10	Agricultural Extension Fund No. 10
AIDS	Acquired Immuno Deficiency Syndrome
ALDEP	Arable Land Development Programme
ARAP	Arable Rainfed Agricultural Programme
BAMB	Botswana Agricultural Marketing Board
BLDC	Botswana Livestock Development Corporation
BMC	Botswana Meat Commission
BOCCIM	Botswana Confederation of Commerce, Industry and Manpower
BTDP	Botswana Tourism Development Programme
CAMPFIRE	Communal Area Management Programme for Indigenous Resources
CAUTHE	Council for Australian University Tourism and Hospitality Education
CBA	Cost-Benefit Analysis
CBNRM	Community Based Natural Resource Management
CBO	Community-Based Organisation
CBPP	Contagious Bovine Pleuropneumonia
CFC	Chlorofluorocarbon
CHA	Controlled Hunting Area
CI	Conservation International
CIA	Central Intelligence Agency
COBRA	Conservation of Biodiversity Resource Areas Programme
CSO	Central Statistics Office
DFID	The British Department for International Development
DOT	Department of Tourism
DWNP	Department of Wildlife and National Parks
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EIU	Economic Intelligence Unit
ETB	English Tourist Board

EU	European Union
FAP	Financial Assistance Policy
GDP	Gross Domestic Product
GEF	Global Environment Facility
HATAB	Hotel and Tourism Association of Botswana
HIV	Human Immuno-deficiency Virus
HOORC	Harry Oppenheimer Okavango Research Centre
IIED	International Institute for Environment and Development
ITCZ	Inter Tropical Convergence Zone
IUCN	The World Conservation Union
KCS	Kalahari Conservation Society
KDT	Khwai Development Trust
LDC	Least Developed Countries
LIFE	Living in a Finite Environment
NAMPAADD	National Master Plan for Arable Agriculture and Dairy Development
NCS	National Conservation Strategy
NDP	National Development Plan
NGO	Non-Governmental Organisation
OAS	Organisation of American States
OBSC	Okavango Basin Steering Committee
OCT	Okavango Community Trust
OECD	Organisation for Economic Co-operation and Development
OKACOM	Okavango River Basin Water Commission
OKMCT	Okavango Kopano Mokoro Community Trust
OPT	Okavango Poler's Trust
OPWT	Okavango People's Wildlife Trust
PMU	Project Management Unit
PPT	Pro-Poor Tourism
QBLDC	Quarantine Botswana Livestock Development Corporation
SADC	Southern African Development Community
SIA	Social Impact Assessment
SIDA	Swedish International Development Agency
SLOCA	Service to Livestock Owners in Communal Areas
SMEC	Snowy Mountains Engineering Corporation
SNV	Netherlands Development Organisation

SPSS	Statistical Package for Social Sciences
STMT	Sankuyo Tshwaragano Management Trust
TGLP	Tribal Grazing Land Policy
UB	University of Botswana
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNRISD	United Nations Research Institute for Social Development
USAID	United States Agency for International Development
WCED	World Commission on Environment and Development
WMA	Wildlife Management Area
WTO	World Tourism Organisation
WTO	World Trade Organisation
WTTC	World Travel and Tourism Council

DECLARATION

I, Phillipa Anne Harrison, Registration Number: 972147803, hereby declare that the dissertation entitled, "The Role of Tourism in Natural Resource Management in the Okavango Delta, Botswana", is the result of my own investigation and research and that it has not been submitted in part or in full for any other degree or to any other University.

P. Harrison	Supervisor	06/04/2006
		Date

CHAPTER ONE

Introduction

1.1 Motivation

"Of all noxious animals, the most noxious is a tourist," wrote the Victorian diarist Francis Kilvert in 1870. These are words that have been echoed on numerous subsequent occasions in diverse parts of the world by individuals with widely differing backgrounds and political persuasions (Bouquet and Winter, 1987). Tourism provokes reaction, whether positive or negative, and conjures up images of change and progress, exploitation and degradation. The social, economic and environmental impact of tourism has long been a focus for academic inquiry in those parts of the world associated with its most rampant and rapidly growing forms in the past decades (Bouquet and Winter, 1987).

The dramatic global growth of the middle class and a parallel increase in disposable income and leisure time following World War II has made tourism one of the world's largest industries, and the world's largest economic sector, generating a higher income than any other economic activity (Economist, 1991; Filho, 1996; Hall, 2005). As tourists from the generally more developed 'North' have sought new and more exotic locations, governments in the generally less developed 'South' have welcomed them as a source of foreign exchange, investment and economic growth causing the Third World tourism industry to boom (Torres, 1996; Timothy, 2001). National development plans are drawn up based on the assumption that the economic benefits of tourism will trickle down to stimulate other sectors of the economy, while alternatively helping to conserve and protect the fragile environments and natural resources on which the tourism industry is often based. The rationale for this assumption is that the tourist-driven demand for 'pristine and unspoilt' locations will ensure the long-term protection of these areas by both government policy makers, tourists and local populations (Ioannides, 1995; Torres, 1996).

Empirical evidence, however, does not support this argument (Ioannides, 1995; Torres, 1996). Numerous studies (Bryden, 1973; Buhalis and Fletcher, 1992; Torres, 1996; Holden, 2000; Ghimire, 2001; Shaw and Williams, 2004), noting the failure of the development of linkages between tourism and environmental preservation, reveal an alternative scenario in which tourism places increasing demand upon fragile Third World destinations which cannot normally be satisfied by the limited natural resource base in a host destination. The catalogue of environmental damage directly attributed to the growth of the tourist industry is long, and in many cases, the impact is interrelated, and locked into a chain where short-term gain takes precedence over long-term protection (Pattullo, 1996).

Tourism may successfully compete with local populations for scarce resources of land, water, vegetation and wildlife. Furthermore, contrary to the optimistic predictions of poverty alleviation and local multiplier effects, evidence reveals that most benefits from Third World tourism accrue to transnational corporations, non-local entrepreneurs and governments (Bryden, 1973; Torres, 1996; Ghimire, 2001). The growth of tourism centres also contribute to local poverty by serving as magnets for rural-to-urban migration. Rural migrants, in search of improved employment opportunities, typically compete for a limited pool of low-paying jobs and end up living in squalid conditions on the resort peripheries, placing increased pressure on the area's resources (Torres, 1996; Ghimire, 2001).

Government planners and policy makers tend to emphasize the potential positive impacts of tourism on the preservation and management of natural environments and resources, particularly through the formation of conservation areas. The positive impacts of tourism on natural resources include the formation of conservation areas and wildlife reserves and parks; the formation and encouragement of community based natural resource management projects; the education of local communities on the preservation and sustainable utilization of natural resources; increased profitability of resource preservation; development of supportive infrastructure and providing local inhabitants with increased or supplementary incomes through the sustainable utilization and management of natural resources (Pattullo, 1996; Holden, 2000; Shackley, 2001; Scheyvens, 2002; Fennel, 2003).

However, on closer examination, the negative effects often appear to outweigh the benefits (Torres, 1996). Some of the most common negative impacts include the destruction of natural environments, vegetation damage, water pollution, soil erosion and the silting up of water-ways (Pattullo, 1996; Holden, 2000; Ghimire, 2001); creation of competition for land and labour resources (Bryden, 1973; Van Der Straaten, 2000; Smith, 2003); loss of access to natural areas; inflation of land values (Belisle, 1984; Shaw and Williams, 2004; Sharpley, 2005); abandonment of traditional subsistence strategies and rural-urban migration (Adams, 1992; Ghimire, 2001; Smith, 2003); changes in consumption patterns and inflated food prices (Belisle, 1984; Ghimire, 2001; Smith, 2003); poaching (Pattullo, 1996;); destruction of wildlife through habitat loss and fragmentation, the deterioration of the natural resource base and the maldistribution of tourism benefits (Smith and Eadington, 1992; Holden, 2000; Sharpley, 2005).

Any form of commercial development will bring with it impacts upon the social, economic and physical environment. Due to the fact that tourists have to visit the place of production in order to consume the output, tourism clearly leads to such impacts (Cooper *et al*, 1993). It is therefore critical that careful planning is undertaken before and during the tourism development process.

Since independence in 1966, the Government of Botswana has been determined to promote economic development as a means of improving the quality of life and living standards of its people. Botswana's Current National Development Plan (NDP9) (2003/04 – 2008/09) identifies several natural resources on which the economy of the country is based: vast cattle ranges, a variety of presently exploited or potentially useful minerals, and rich natural areas and wildlife habitats on which the tourism industry is based. Botswana contains significant open rangeland and some of the last great populations of wild animals in Africa. According to the NDP, "...they (the wildlife) represents a tourist attraction that has yet to be fully exploited. Meanwhile, and more importantly, they make a contribution to the subsistence economy of the country" (http://www.lead.org...htm, 2003).

The Government of Botswana is grappling with the task of developing a tourism policy that will maximize its goals of rural job creation, revenue generation from foreign exchange, conserve and protect wildlife, and be compatible with the cultural

norms of its people. To date, the government has taken a strong conservation stand and has only marginally stressed increased tourism. However, the deteriorating national economic situation, exacerbated by drought and a subsequent decline in revenues from cattle raising, has prompted leaders to push for more tourism to compensate for economic losses (http://www.lead.org...htm).

Total foreign arrivals to Botswana increased from 1 731 321 in 2001 to 1 917 819 in the Year 2002. The most popular reason for entering the country was either in transit to other countries or holidaying in Botswana, with the annual hotel turnover since 1999 averaging around 150 million Pula (Republic of Botswana Tourism Statistics, 2000; Republic of Botswana Statistical Bulletin, 2004). The sparsely populated Okavango Delta in the northwestern region of Botswana has become the country's prime tourist destination, capturing most of the 800 000 foreign tourists that enter the country each year (Republic of Botswana Tourism Statistics, 2000). Botswana's tourism industry contributes 6 percent to total GDP, and it is estimated that some 53 percent of the economically active population in the Okavango Delta region derive at least part of their income from tourism in the form of formal and informal work in the tourism industry (Silitshena and McLeod, 1998). The population of Maun, the regional headquarters, increased from 26 768 in 1991 to 43 952 in 2002. This was largely due to the migration of people from rural areas to Maun in search of employment and development opportunities brought about by the growth of the tourism industry (Silitshena and McLeod, 1998; Mbiawa, 2001). The Okavango Delta region is now beginning to experience a number of detrimental environmental, social and economic impacts typical of conventional mass tourism.

Research has shown that the Okavango Delta is faced with a number of social, economic and environmental challenges. These include extreme levels of poverty, especially in the rural areas; lack of infrastructure; competition over land, resources and labour; growing regional inequality; social degradation; increased imports leading to foreign exchange leakages; changes in subsistence strategies and increased 'rural-urban' migration; and the loss of control of the region by the local population to the global tourism system. The Okavango Delta is in the process of undergoing a change from traditional, rural, subsistence economies and livelihoods to capitalist, commercial-driven economic structures. In the Okavango Delta, as in many places around the world, people are in the process of being integrated into

national level, political, social and economic institutions, both within and outside of their control. The development of mass tourism in the Delta has led to changes in land use in the area as tourism is the chief economic activity in the region. Hence, the further development of the industry is a priority for the Botswana Government, regardless of its impact on local communities and subsistence strategies. Tourism in the Okavango Delta is directly dependent upon the utilisation of the region's natural resources of wildlife, water and natural vegetation areas for the industry. As such, tourism has increasingly impacted upon the way, and degree to which, these resources are managed and utilised, hence being identified as a key factor affecting the resource sector. As a result, the region offers much scope for the study of the impact of tourism on local social, economic, cultural, environmental and natural resource structures.

The Okavango Delta presents a unique opportunity to study the relationship between tourism and the utilization and management of a region's natural resources, to observe the negotiation and competition which occur between global and local utilization patterns, and to review the inevitable transformation of local culture, economy and physical landscape. As highlighted by Britton (1982, p. 331), "...when a Third World country uses tourism as a development strategy, it becomes enmeshed in a global system over which it has little control." Furthermore, "... many publications in the tourism literature attest to the widespread social, economic and environmental effects of the global forces of international tourism in both industrialised and developing nations" (Torres, 1996, p. 2).

A number of tourism, natural resource and related socio-economic studies have been carried out in the Okavango Delta region over the past decade or so, many undertaken by the University of Botswana in Gaborone, and more recently, the Harry Oppenheimer Okavango Research Centre (HOORC) in Maun. The majority of tourism studies in the region have been synonymous with investigations into the socio-economic and cultural impacts of tourism development on the area and its inhabitants (Appendix One). Reflecting this, they typically focus on issues such as the loss of traditional cultural practices and changes to social, economic and infrastructural structures brought about by tourism development in the area. Most natural resource studies conducted in the Delta tend to concentrate on factors of resource conservation and degradation, with specific focus on changes in wildlife

numbers (Appendix One). Investigations into the linkages between tourism development and the management and utilisation of the Okavango Delta's natural resources have been limited to tourism's physical impact upon these resources. As such, they also tend to focus narrowly on resource conservation and degradation, while neglecting issues such as tourist influence in the utilisation and management of natural resources, government policy and planning, the role of local communities in resource management, economies, infrastructure and management constraints (Appendix One).

As can be seen from Appendix One, there is a clear lack of research which deals with the complex interrelationships between the tourism and natural resource sectors in the Okavango Delta. The paucity of research on the linkages between international tourism and the utilisation and management of the Delta's natural resources is particularly disconcerting in light of the rapid growth of international tourism in this region, whose local population is still, to a large extent, directly dependent upon such natural resources for their livelihoods. If the Government of Botswana is to develop a tourism industry which fosters environmental and natural resource preservation, rather than maintaining a heavy dependence on limited and fragile resources, a better understanding of the relationship between the two sectors is necessary (Torres, 1996).

This study will attempt to employ a broad definition of 'linkage', extending beyond the physical impacts of tourism on natural resources to examine the relationships, mechanisms and interactions between the tourism industry, government institutions, human agents and natural resources in the Okavango Delta.

The global tourism industry is of great importance to both developed and developing countries as it contributes greatly to economic growth and channels expenditure from richer to poorer countries and regions (Clement and Kartik, 1998). Therefore, there is an urgent need for research that will extend beyond the narrow focus of the tourism industry and examine the primary elements of the relationships between demand, supply, sustainable utilization and impact that determine the linkages between tourism and the use and management of natural resources. "Additionally, there is a need for research which analyses the profound role of tourism as a global force restructuring rural space and reconfiguring local relations of production and

consumption" (Torres, 1996, p. 2). This study not only has relevance for Botswana, but also many other developing countries, especially in Africa, that are attempting to develop and implement local tourism industries. Only through more integrated studies will it be possible to develop viable solutions for fostering positive, symbiotic relationships between tourism and natural environments – a long term goal that is rarely achieved (Torres, 1996).

1.2 Study Aim and Objectives

The primary aim of this study is to determine the impact of tourism in the management of natural resources in the Okavango Delta. This study attempts to answer four important questions crucial in understanding the nature of the role that tourism plays in the management of natural resources in the Okavango Delta: (i) What role does tourism play in the management and utilization of natural resources in the Okavango Delta? (ii) What impact has the development of tourism had on the region's natural resources and local communities? (iii) What are the factors present in the area that influence the use and management of the region's natural resources? (iv) What possibilities exist for the fostering of positive links between tourism and the sustainable utilization and management of natural resources in the Okavango Delta?

More specifically the objectives of this study are to:

1. Analyse the factors which determine the impact of tourism on the management and utilisation of wildlife, vegetation and water resources.

2. Determine the impacts of tourism on natural resources in the Okavango Delta. This will include an examination of changes in land use, resource use, rural income, trade, consumption patterns, demographics, production patterns and infrastructure developments.

3. Analyse the past and present patterns of resource utilisation and management, tourism development, infrastructure development and rural migration in the Okavango Delta.

4. Establish the extent of natural resource use by the tourist hotels/lodges/safari camps in the Okavango Delta. This will provide insights into existing linkages between tourism development and the impact on an area's natural resource base.

5. Identify tourist demand for the utilisation of natural resources in the Okavango Delta. This will provide insights into the ensuing pressures placed on social, environmental and economic structures in meeting that demand.

6. Identify viable alternatives for creating and strengthening positive linkages between tourism and the sustainable management and utilisation of natural resources in the Okavango Delta.

The tourism aspect of the study will concentrate on the entire Okavango Delta region of Botswana, including the main tourist destinations of Maun, the Panhandle area and Moremi Game Reserve. The resource management aspect of the study will focus on past and present forms of resource utilization practiced by the local inhabitants scattered throughout the Delta area, the implementation of government policy regarding resource use, past and present relationships between tourism and resource utilisation, and the impact of tourism on the area's resources and local communities. The study will concentrate on the areas natural resources which include wildlife, pristine thirst land and wetland environments, and water courses, on which the entire Okavango Delta tourism industry is based.

This study will attempt to define the factors that influence tourism's role in the management of the Okavango Delta's natural resources of wildlife, vegetation and water. This will provide a framework to determining the impacts of tourism on the Okavango Delta's natural resources. This will include an examination of changes in land use, resource use, rural income, trade, consumption patterns, demographics, production patterns and infrastructure developments. This project will also identify viable alternatives for creating and strengthening positive linkages between tourism and the sustainable management and utilisation of natural resources in the Okavango Delta.

The concept of sustainable utilisation, specifically from an environmental perspective will be dealt with, in the project. This will focus on tourism's role in the utilisation of, and impact on, a region's natural resources. Sustainable utilisation requires the long-term protection and preservation of resources. However, there is increasing concern over the extent to which tourism damages and alters natural resources and environments compared to the levels of protection it provides.

The growth of tourism in the Okavango Delta region has led to unprecedented economic growth and has also partly contributed to the conservation of the area's natural resources. However, the tourism industry in the Delta is also characterised by the emergence of 'enclave tourism,' where the 'foreign owned' tourism industry is established to meet the demands of foreign tourists and generally fails to take into account the needs and demands of the surrounding local communities. This has led to the increasing loss of resources by the local population to the international tourism industry. This study will focus, in part, on the possibility and options for local communities to gain control over the utilisation of natural resources through the development of Community Based Natural Resource Management initiatives. This will focus on the integration of people and their environments in attempting to bring about sustainable development and rural upliftment, as well as resource preservation and protection.

In attempting to understand the nature and role of the development of the global tourism industry on host destinations and societies, one cannot ignore tourism's impact on the environment and natural resources in different localities. This project will focus on the relationship between capitalist development initiatives and the environment. It will analyse the negotiation and competition that occurs between the global, humanistically orientated forces of tourism and the local environments and natural resources that this industry utilises.

This thesis comprises nine chapters. A review of literature focusing on the tourism industry and its impacts, natural resource utilisation and management, and sustainable development is presented in chapter two. Chapter three details the theoretical framework within which this study is located. The methods undertaken, conceptual framework and design of the study is presented in chapter four. An overview of the country of Botswana, and the study area, the Okavango Delta is

detailed in chapter five. The institutional and policy framework in tourism and natural resource management in the Okavango Delta region is also presented in this chapter. Chapters six, seven and eight present the study results, with chapter six providing an in-depth view of the Okavango Delta's tourism industry, chapter seven focusing on the utilisation and management of natural resources in the Okavango Delta, and chapter eight presenting the socio-cultural and environmental impacts of tourism in the Okavango Delta region, and the present and future threats facing the Okavango system. A discussion of the results in chapter nine demonstrates how this study contributes, in a meaningful way, to the existing body of literature on the impacts of tourism and natural resource management. Recommendations concerning sustainable natural resource utilisation and development are discussed and other relevant aspects that might enhance the relationship between tourism development and sustainable natural resource use are presented.

CHAPTER TWO

Literature Review

2.1 Introduction

In a world of change, one constant over the last quarter of the twentieth century has been the sustained growth of tourism both as an activity and an industry (Cooper *et al*, 1998). Tourism has a history that extends back as far as some of the earliest forms of trade. However, it was not until the last half of the twentieth century that it has become prominent in terms of both the geographical extent of tourism flows and the scale of these movements (Faulkner *et al*, 2001). In 1996 the World Travel and Tourism Council (WTTC) estimated that tourism was the world's largest industry, and it directly and indirectly generates and supports 204 million jobs. This is equivalent to more than ten percent of the world's workforce and is responsible for over ten percent of global gross domestic product (GDP). It is clear that tourism is a significant force in the economy of the world, an activity of global importance (Cooper *et al*, 1998).

The demand for tourism is predicted to reach unprecedented levels over the next twenty years, providing the tourism industry and all those involved in its production and consumption with major challenges. New problems requiring new solutions are constantly arising. The tourism industry is a complex and dynamic system where the primary elements change constantly and often unpredictably. Nevertheless, the economic significance of tourism has guaranteed increased governmental, private and international attention, and accompanying this has been a growing recognition of the importance of tourism and the need to be able to define and measure all aspects of the industry (Cooper *et al*, 1998; Shaw and Williams, 2004).

This chapter presents a broad overview of the various definitions, concepts, approaches to, and theories of, tourism and natural resource management. It focuses on tourism's social, economic and environmental effects on host

destinations, concentrating on its impacts on developing nations. A broad review of the impacts of tourism on a host destination's natural resource base is presented, and a review of literature relating to the growth of rural tourism and its impacts, sustainability and natural resource utilisation are highlighted. Lastly, a brief overview of the concepts of Community Based Natural Resource Management and Pro-poor Tourism are presented.

2.2 Definitions of Tourism

Tourism is a multidimensional, multifaceted activity, which impacts upon many lives and many different economic activities. It is therefore of little surprise that tourism has proved difficult to define (Cooper *et al*, 1998).

According to the Department of Environmental Affairs and Tourism of the Republic of South Africa (1996), tourism creates opportunities for the small scale entrepreneur, promotes awareness and understanding among different cultures, aids in the promotion of a unique informal sector, creates economic linkages with agriculture, small scale manufacturing and curios (art, crafts and souvenirs), establishes links with service sectors (such as health, entertainment and banking), and provides employment opportunities. International tourism is transforming previously closed societies of insular, "inward-looking" states into an open universal society where contact between people becomes a daily reality. It satisfies a deep need for exchanges and encounters with other cultures. Tourism plays an important role in countless people's lives and it is arguably one of the most influential phenomena in the economic and social development of our society (Vellas and Becherel, 1995).

Tourism is viewed by social scientists and academics from numerous perspectives, and therefore, a range of definitions for the concept has been developed. One of the first definitions of tourism was suggested in 1942: "(T)ourism is the sum of the phenomena and relationships arising from the travel and stay of non-residents, in so far as they do not lead to permanent residence and are not connected with earning activity" (Perez and Jose, 2001, p. 1). Some hold the view that tourism is a service industry that takes care of visitors when they are away from home. Others restrict

the definition of tourism to the distance away from home to include overnight stays in paid accommodation or travel for the purpose of pleasure or leisure (Holloway, 1994).

Alternatively, Gunn (1994, p.4) believes that tourism "encompasses all travel with the exception of commuting", and that it is more complex than just a service industry. According to McIntosh and Goeldner (1986, p.ix), "(T)ourism can be defined as the science, art and business of attracting and transporting visitors, accommodating them, and graciously catering to their needs and wants". Another view is that tourism is interactive and may be defined as "...the sum of the phenomena and relationships arising from the interaction of tourists, business suppliers, host governments, and host communities in the process of attracting and hosting these tourists and other visitors" (McIntosh and Goeldner, 1986, p. 4).

Nash (1989, p.37) holds an alternative view of tourism as "...a form of imperialism – a dichotomy of have and have nots with lesser developed countries serving the pleasures of more developed countries". Shanes and Glover (1989, p.2) state that "the service experience of tourism is a social experience, and as such involves human interaction whose nature or form is determined by the culture or cultures of the interacting individuals". Lastly, Smith and Eadington (1992) provide the simplest definition of tourism yet, by stating that "(T)ourism is in fact a significant social institution" (p. xiii). While conceptualising tourism in its entirety is difficult, academic interest in the subject has not been halted by the lack of an accepted, official definition. These definitions of tourism are fairly broad and therefore do not encompass the characteristics of international tourism, mass tourism, responsible tourism and ecotourism.

2.3 Tourism: Subject or Discipline?

Tourism, as an activity of global importance, is a relatively new development and as a result has only recently been considered worthy of serious business endeavour or academic study (Cooper *et al*, 1998; Faulkner *et al*, 2001). The tourism industry is, however, of sufficient economic importance, and its social, economic and environmental impact is significant enough for the subject of tourism to deserve

serious academic consideration. There can be little doubt that tourism is a subject area or domain of study. However, it presently lacks the level of theoretical underpinning that would allow it to become a discipline. Nevertheless, tourism's popularity as a subject and the increasing recognition of its importance by governments has resulted in it receiving increasing academic and research interest. As a subject, tourism is showing signs of early maturity with a growing academic community, increasing numbers of publications and journals which are becoming specialised, and a number of professional societies both internationally and within individual countries. All these indicators point to the growing professionalism of the tourism sector (Cooper *et al*, 1998; Faulkner *et al*, 2001).

Notwithstanding the above trends, tourism lacks the level of theoretical sophistication that would allow it to develop into a fully-fledged academic discipline. Tourism as a subject area is still bedevilled by conceptual weakness and fuzziness (McIntosh *et al*, 1995; Cooper *et al*, 1998; Faulkner *et al*, 2001). Researchers are therefore faced with many questions that would be taken as common ground in other subjects. There is no real agreement over definitions of tourism or what constitutes the tourism industry. The World Tourism and Travel Council (WTTC) for example, states that tourism is the world's largest industry, but this statement is open to criticism simply because there is no common agreement as to what comprises the tourism sector. Consequently, tourism suffers from an 'image problem' within academic circles (McIntosh *et al*, 1995; Cooper *et al*, 1998; Faulkner *et al*, 2001).

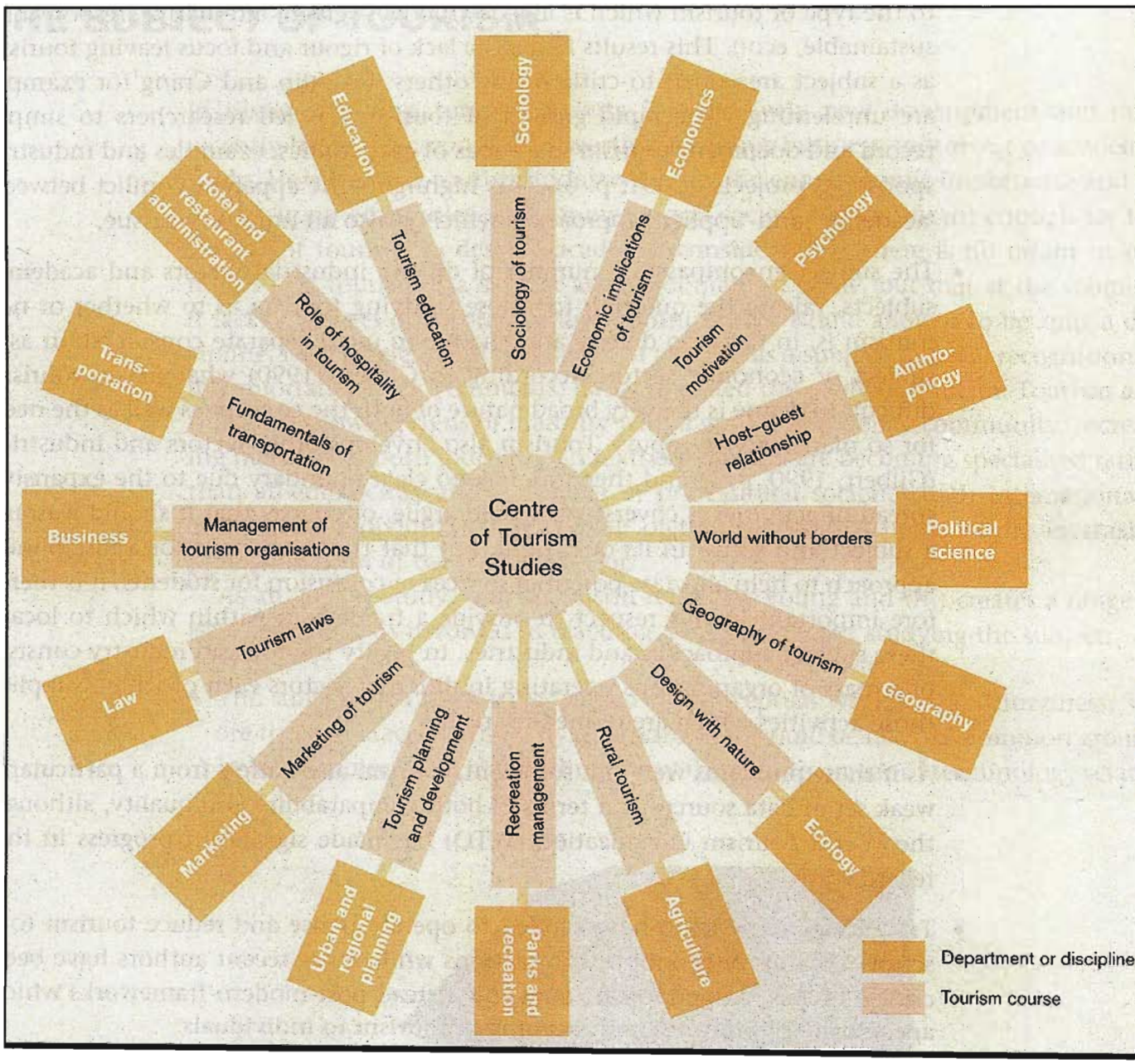
Tourism encompasses a number of diverse industrial sectors and academic subjects, raising the question as to whether tourism, is in fact, too diverse and 'chaotic' to merit separate consideration as a subject or economic sector (McIntosh *et al*, 1995; Cooper *et al*, 1998; Faulkner *et al*, 2001). It can be argued that it should warrant a subject and sector in its own right, but that there is a need for a disciplined approach to help alleviate potential sources of confusion. Tourism also suffers from a particularly weak set of data sources, in terms of both comparability and quality. Traditional approaches have tended to operationalise and reduce tourism to a set of activities or economic transactions, while more recently, researchers have been more critical of 'reductionalism', stressing instead post-modern frameworks which analyse the significance and meaning of tourism from multiple approaches (Cooper *et al*, 1998).

2.3.1 Basic Approaches to the Study of Tourism

Given its diversity, the study of tourism is commonly approached through a variety of disciplines and methods (McIntosh *et al*, 1995; Cooper *et al*, 1998). Individual disciplines, for example, view the activity of tourism as an application of their own ideas and concepts. For example, a geographical, economic or institutional approach could be adopted. An alternative is to take a multidisciplinary or interdisciplinary approach which attempts to integrate a variety of subjects and disciplines in the study of tourism (Figure 2.1) (McIntosh *et al*, 1995; Cooper *et al*, 1998).

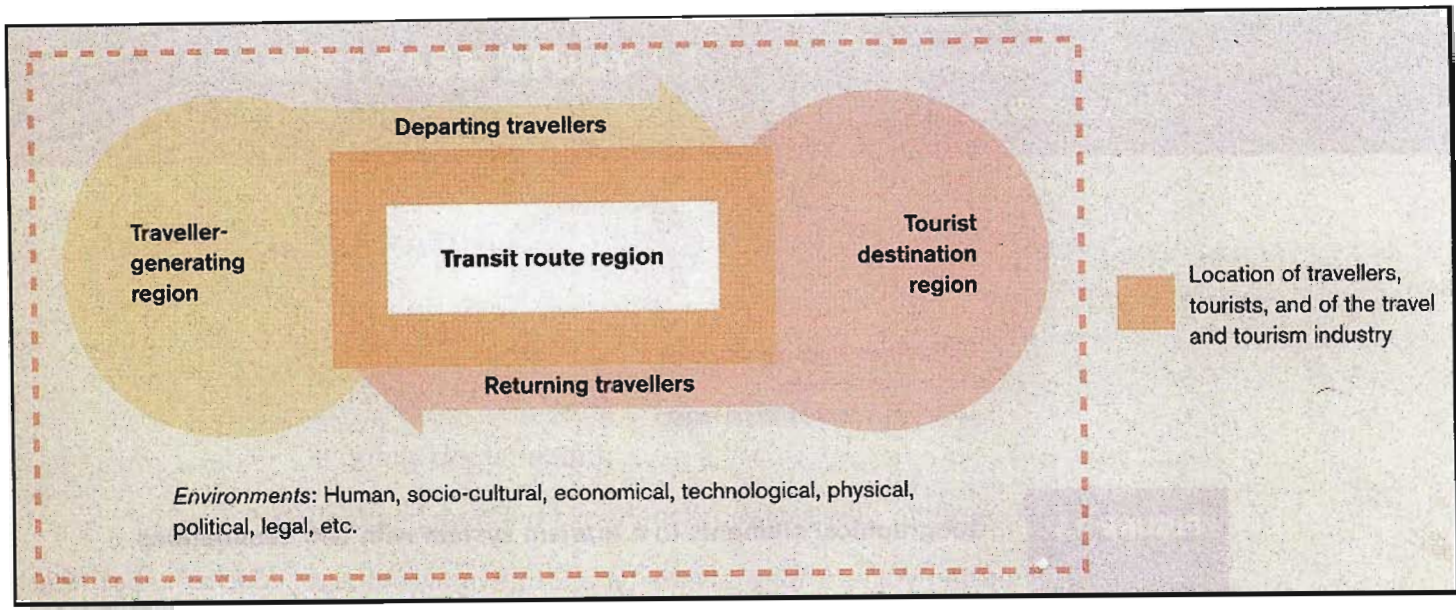
In attempting to develop a conceptual framework that incorporates the many aspects and approaches to the study of tourism, the Basic Tourism System model developed by Leiper (1990) can be utilised (Figure 2.2).

Figure 2.1: Study of Tourism and Choice of Discipline and Approach



Source: Adapted from McIntosh *et al*, 1995; Cooper *et al*, 1998.

Figure 2.2: Basic Tourism System Model



Source: Adapted from Leiper, 1990; Cooper *et al*, 1998.

Leiper's model consists of three basic elements, taking into account the activities of tourists, allowing industry sectors to be located and providing the geographical dimension which is inherent to all travel (Leiper, 1990; Cooper *et al*, 1998).

1. Tourists: The tourist is the actor in this system as tourism, after all, is a very human experience which is enjoyed, anticipated and remembered by many as some of the most important times of their lives (Leiper, 1990; Cooper *et al*, 1998).

2 Geographical elements: Leiper identifies three geographical elements in his model: the traveller-generating region; the tourist destination region and the transit route region (Leiper, 1990; Cooper *et al*, 1998). The traveller-generating region represents the generating market for tourism as it is from here that the tourist searches for information, makes the booking and departs. This region, in a sense, provides the 'push' to stimulate and motivate travel (Leiper, 1990; Cooper *et al*, 1998).

The tourist destination region, in many respects, represents the 'sharp end' of tourism. It experiences the full impact of tourism, and planning and

management strategies are implemented here. The destination represents the very reason for tourism, consisting of a range of 'special places' distinguished from the everyday by their cultural, historic or natural significance (Rojek and Urry, 1997). The 'desire' to visit destinations 'energises' the tourism system and creates demand for travel in the generating region. Hence, it is at the tourist destination region where the most conspicuous and dramatic consequences of the system occur (Rojek and Urry, 1997).

The transit route region represents both the short period of travel to reach the destination, as well as the intermediate places which may be visited *en route* (Rojek and Urry, 1997).

3. Tourism industry: Consists of a range of businesses and organisations involved in delivering the tourism product. The model allows for the location of the relevant industrial sectors to be identified. For example, travel agents and tour operators are generally found in the traveller-generating region, attractions and the hospitality industry are located in the destination region, and the transport sector is, for the most part, present in the transit route region (Rojek and Urry, 1997).

The three elements of Leiper's tourism system interact, not only to deliver the tourism product, but also with regards to transactions and impacts, and the differing contexts within which tourism occurs. Tourism is an industry of contrasts, a fact which can be illustrated by examining two major elements of Leiper's model. Demand for tourism in the generating region is predominantly volatile, seasonal and irrational. This demand, however, is satisfied by a destination region where supply is fragmented, and inflexible, surely contributing to the financial instability of tourism (Leiper, 1990; Cooper *et al*, 1998).

Some of the major advantages of Leiper's model include its general applicability and simplicity. It has the ability to incorporate interdisciplinary approaches to tourism as it is not rooted in any particular discourse or discipline, but rather provides a framework within which disciplinary approaches can be located. The model is applicable at any level or scale of generalisation – from a local resort to the

international industry. The model is infinitely flexible, allowing the incorporation of different forms of tourism, while also demonstrating their common elements. Lastly, the model demonstrates a crucial principle of tourism studies, that all the elements of tourism relate and interact with each other. It is the study of a system of customers and suppliers who demand and supply the tourism product and services, and it is the realisation of their interrelationships that provides a true understanding of tourism (Leiper, 1990; Cooper *et al*, 1998).

2.4 Tourism as an Industry

When reviewing the concept of tourism in its entirety, the term 'travel industry' needs to be examined more closely. As Williams (1998, p.6) states, "...there are problems inherent in the definition of tourism as an industry, even though there are clear practical advantages in delineating tourism as a coherent and boarded area of activity". It has been argued that defining tourism as an 'industry' establishes a framework in which tourist activity and its associated impacts may be measured and recorded and, more critically, provides a form of legitimisation for an activity that has often battled to gain the strategic recognition of political and economic analysts (Williams, 1998).

Tourism in practice is an opaque area and the idea that it may be conceived as a distinctive industry with a definable product and quantitative flows of associated goods, labour and capital has in itself been a problem (Hoggart *et al*, 2002).

Generally an industry is defined as a number of firms engaged in the manufacture of a given product or service. In tourism, however, there are numerous products and services, some tangible (provision of accommodation, entertainment and the production of gifts and souvenirs), others less so (creation of experience, memories and social contact). Often the firms that service tourists also provide for local inhabitants as well. Tourism therefore cannot be considered an industry in any conventional sense. It is in reality a collection of industries, which has varying levels of dependence upon visitors, a dependence that changes through both space and time (Williams, 1998).

Tourism should thus be regarded as more of a system, than an industry. According to Mill and Morrison (1985), the tourism system has four parts: origin, travel, destination and marketing. Origin refers to the decision made by tourists on the type of travel that will fulfil their basic needs. The second element of the system is the attention given to when, how and where to travel. These decisions are usually determined by social, psychological and economic characteristics (Mill and Morrison, 1985, Hoggart *et al*, 2002). In recent years developing countries have become important tourist destinations.

2.5 International Tourism

Since the end of the Second World War there has been an unparalleled growth in the number of tourists visiting exotic destinations around the world. There has also been a persistent spread in the spatial extent of activity and the resultant emergence of new tourist destinations (Williams, 1998; Shaw and Williams, 2004; Hall, 2005). According to the World Tourism Organisation (WTO) (1994), international tourism (as measured in tourist arrivals at foreign borders) during the 1950s involved around 25 million people world wide – a figure no larger than the number of domestic holidays taken in Great Britain at the same time. However, by 1994 international tourism had risen to an estimated 528 million arrivals. It is also estimated that there will be around one billion international arrivals by the Year 2010 (Erkkila, 1994).

The expansion of international tourism has been almost continuous, reflecting not only the increasing popularity of foreign travel but more importantly, the centrality of tourism within the lifestyles of modern travellers (Williams, 1998; Shaw and Williams, 2004). On a global scale, international tourism appears largely immune to the effects of events that would generally be expected to exert an effect. Neither the oil crises of the mid-1970s, the economic recessions of the 1980s, the war in the Persian Gulf in the 1990s, nor the September 11th terrorist attacks in 2001 have deterred the international tourist to the extent that upward trends are reversed significantly. Annual rates of increase, however, do show signs of deflection, particularly in response to economic conditions. Overall, the expansion of international tourism appears inevitable, and the industry is resilient enough to be able to withstand pressures of inflation, currency fluctuations, political instability and increasing

unemployment in most of the countries that generate the principle flows of international tourists (Williams, 1998; Timothy, 2001; Shaw and Williams, 2004; Hall, 2005).

International tourism can be considered an export industry, and therefore may provide unparalleled opportunities for earning foreign exchange. Hence, its not surprising that since the 1960s international tourism has often been seen as a dynamic engine for economic development in both high and low income countries (Schaller, 1996; Scheyvens, 2002). The fastest growth rates in international tourism are often found in developing countries. The increase in international tourism has also resulted in forms of tourism which provides alternatives to mass tourism (Hunter and Green, 1995). According to Gamble (1989, p. 2), international tourists can be defined as "...people who, mainly in the pursuit of pleasure, cross a frontier and stay at least 24 hours in a foreign country". Around 80 percent of international tourists originate from North America and Europe, both rich, industrialised regions (Williams, 1998; Shaw and Williams, 2004).

Higher incomes, the provision of a wide number of retail outlets, the development of package tours and the commodification of foreign travel, the provision of good quality, low cost accommodation and transport, and the provision of local tour and holiday guides who liase between visitor and host, have given millions of people the opportunity to comfortably travel to foreign destinations (Ward, 1997; Williams, 1998; Robson, 2002).

2.6 Mass Tourism

As one of history's oldest commercial enterprises, tourism has become one of the world's largest industries (WTTC, 1992; Williams and Shaw, 2004). On the demand side, this prominence is a result of post-World War II affluence and increased leisure in developed countries, and a marked decline in the relative cost of travel. On the supply side, the mutually beneficial confluence of airlines, tour operators, travel agents and hotel chains, together with receptive governments, particularly in less developed countries, has created a vast, global network of vacation opportunities. Many less developed governments have been especially eager to reap the foreign

exchange, investment, income and employment promises of tourism as they restructure away from traditional monocrops. As a result, at the start of the Twenty First Century, tourism has increasingly become the industry of choice for modernising underdeveloped nations, and in part, alternative, foreign, Third World holiday experience has become the vacation choice of conventional mass tourism (McElroy and de Albuquerque, 1996; Ghimire, 2001; Hall, 2005).

Certain authors, such as Noronha (1977) and de Kadt (1979) use a three-stage period to describe the development of mass tourism in a particular destination. Firstly, a few tourists 'discover' the destination; secondly, in response, local entrepreneurs provide facilities to accommodate the growing number of visitors; and thirdly, 'institutionalisation' or mass tourism follows, when the further development of tourism facilities tends to come under the control of both public and private agencies rooted outside the local community, and very often, outside the country. This three phase sequence is, however, far from inevitable, as the last phase may overlap with the first in the case of major developments, such as with the Mexican Cancun project, where infrastructure and hotels were built in an area with no prior tourism development by national public institutions.

Mass tourism was considered 'best practice' by the tourism industry, by the tourists and by the host countries in the 1970s and early 1980s (Poon, 1993). However, even though destination countries reaped benefits, particularly in terms of foreign exchange earnings, few succeeded in avoiding at least some of the damaging effects of the industry, such as destruction of natural habitats and pollution. It has been the attitude of tourists, who continue to demand traditional types of holidays in large numbers, as well as the commercial aims of those engaged in the industry and the failure of developers and host governments to see beyond the short term, that have resulted in the continued dominance of mass tourism and created obstacles to the spread of alternative, more sustainable approaches (Croall, 1995).

It does, however, appear that the era of unchecked exploitation of the environment by the tourism industry is no longer unquestioned, and there are signs that more sensitive developments are beginning to emerge (Poon, 1993; Limb and Dwyer, 2001; Fennel, 2003). But mass tourism is unlikely to disappear, since those who demand risk-free holidays at relatively low cost will continue to comprise a large

share of the global tourism market. However, the fashionable concern with the environment and with healthier lifestyles, together with demand for 'something different' on the part of those who experienced traditional 'sun, sea and sand' holidays in their youth, influenced the growth of new types of 'alternative' tourism and a search for more sustainable options (Niles, 1991; Davies, 1996; Schaller, 1996; Robson, 2002; Hall, 2005).

2.7 Alternatives to Mass Tourism

Although there are variations, alternative tourism is an umbrella term embracing a supposedly more caring, aware form of tourism, and prefixes include responsible, appropriate, sustainable, soft, green, etc. Wheeller (1991) summarised the aims of alternative/responsible/sustainable/green tourism. He observed that supporters of this type of tourism see a need for an alternative to mass tourism that simultaneously minimises costs, maximises benefits and ensures an equitable and just distribution of those costs and benefits. It is not only alternative, but should also be responsible, more caring and aware, and the benefits should accrue to the hosts, while at the same time there should be protection from its excesses.

Within the concept of alternative/responsible tourism, the traveller is preferred to the tourist; the individual to the group; independent specialist operators are more acceptable than large firms; indigenous, 'homely' accommodation is preferred to multinational hotel chains – in essence, 'small versus mass'. The pace of development is also crucial. It must be controlled, relatively slow and capable of being absorbed into the host environment without any adverse repercussions. The prevailing power base must also be altered and decision-making on tourism development should be placed in the hands of the host communities. Raising the awareness of the traveller prior to departure is also considered a vital component, as education is seen by some as the key to the sustainable development of the tourism industry (Wheeller, 1997).

Equally, there is a strong viewpoint that alternative/responsible tourism actually deflects attention away from the real problem (Davies, 1996). According to O'Grady (1990), the contradiction of alternative tourism is that it stands aside from the key

problem. He states that it is time to return to the main issue of 'what can be done about tourism as a whole?'

According to Wheeller (1997), the fundamental problem of tourism, as a global phenomenon, is the sheer volume involved. The problem of mass tourism is also increasing globally, '...citing examples at the micro level gives the erroneous impression that tourism as a mass phenomenon can similarly be successfully harnessed. In vogue 'solutions' are further fuelling the rapid spread of tourism without offering any real, lasting answer. The real problem is the massive volume of numbers of tourists. This is not being addressed' (p. 92).

Similar opinions were expressed at the first official meeting of the International Academy for the Study of Tourism held in Zakopane in 1989. It was suggested by some that alternative tourism was only a single element of a global industry, while others felt that the task was not to promote alternative tourism, but to make conventional tourism more sustainable (Davies, 1996).

Responsible tourism has developed as a reaction to mass tourism, is being caught up in the groundswell of green issues and is being championed as an appropriate way forward. However, according to Wheeller (1997), "...it cannot, by its very nature, be the way forward everywhere and it is, in fact, dangerously misleading" (p. 62). This is evident in the fact that, on the one hand the problem of mass tourism is that it is growing globally out of control, at an alarming rate, while on the other hand, the solution to this is viewed as being small-scale, slow, steady controlled development. As Wheeller (1997) states, "(T)hey just do not add up" (p. 62). He further suggests that even though there are numerous examples of both domestic and international small-scale 'alternative successes', they should not be cited deliberately or inadvertently, as evidence that tourism as a whole can in a physical sense be sensitively controlled (Wheeller, 1997).

Even though the concept of small-scale development is laudable, it does not tackle the large-scale problem of volume. For example, if all tourist destinations carefully calculated their appropriate tourism thresholds, and then imposed restrictions to keep tourist numbers below these limits, and if all the tourists were indeed 'sensitive travellers', even then the tourist problem as a whole would not be solved as the

effective demand for tourist destinations at the macro level would far outstrip the supply. In essence, it is a micro solution to what is essentially a macro problem (Wheeller, 1997).

The concept of educating the tourist/traveller in destination awareness is equally idealistic. As Wheeller (1997) highlights, "(J)ust how is the Utopian sensitive traveller to be created? How is the exercise to be coordinated? Who pays for it? What time span is envisaged for the effect of the educative process to reach fruition, and what precisely is meant by educating?" (p. 62). To effectively implement such an ambitious educative task in all tourist generating countries presents enormous, perhaps insurmountable, practical difficulties. Considering the speed with which tourist impact is spreading, the time span required for its inception would inevitably result in continued irrevocable tourism damage. There is also the added risk that by raising awareness through education, one would also raise demand, as one of the primary factors in the growth of tourism demand has undoubtedly stemmed from education itself (Wheeller, 1997).

In their rush to escape the mass tourists, the so-called aware, educated individual traveller is forever seeking the new, the exotic, the unspoilt, the vulnerable. Inevitably, however, they are in actual fact paving the way for the package tour. The responsible, sensitive traveller is the perpetrator of the global spread, the vanguard of the package tour. Where he or she goes others will, in ever growing numbers, eventually follow. The question therefore needs to be considered, who in the long term is responsible for the most damage – the mass tourist to the Mediterranean, or the sensitive traveller to the Amazon, the Himalayas or the Sahara? (Wheeller, 1997).

Common ground in the debate appears to be the realisation of the need to reconcile conservation and tourism in the face of ever increasing visitor numbers. The links between tourism and the natural environment have been acknowledged since the 1970s (Budowski, 1979; WTO, 1981; Krippendorf, 1987; Davies, 1996; Holden, 2000; Fennel, 2003), but much of the debate surrounding sustainable tourism has been based on two assumptions (which can equally be applied to mass tourism): Tourism must be made responsible, and tourism has created unique problems (Davies, 1996).

The first assumption is largely based upon a moral stance with which many may agree. Tourism destroys areas, cultures, identities, etc. and therefore must be controlled. According to Davies (1996), the underlying assumption is that the world is both 'perfect and finite'. He further states that there is a need for recognition that the world is finite and that both costs and benefits are associated with tourism activities, and as such, environments should only be protected if people's preferences place a higher value on consumption, rather than on development. Recognition needs also to be given to the fact that many of the difficulties experienced are not unique to tourism. Similar problems in other areas of human activity have been considered and form the basis of studies of conservation. In this light perhaps tourism ought to be seen as a positive development – but with inherent problems (Davies, 1996).

2.7.1 Ecotourism

With the development of alternative forms of tourism in the 1980s, ecotourism has become prominent, although a consistent definition of the concept does not exist (Schaller, 1996; Robson, 2002; Fennel, 2003). Ecotourism is a form of alternative/responsible/sustainable tourism, and was a term apparently coined in 1983 by Ceballos-Lascurain (Allcock *et al*, 1994). However, a confusing and complicating factor is involved in that many forms of tourism (such as outdoor, nature, educational and adventure travel) are now included under the umbrella of "ecotourism" regardless of their characteristics, which further hinders attempts at definition (Valentine, 1993; Furze *et al*, 1996).

However, if ecotourism is to be recognised as a legitimate sector of the tourism industry, definitions of the concept need to be discussed. In its broadest terms it refers to tourism that is based on the natural environment, but that seeks to minimise harmful impacts, and better still, attempts to promote conservation (Ward, 1997). According to the Mundo Maya corporate manual, ecotourism can be considered as passive. It seeks to "...co-ordinate, assist and stimulate cultural and environmental tourist development, recognising the importance of conservation and maintenance of local cultural heritage and the natural resources of the region for present day and future generations" (Mundo Maya, 1995, p. 7). According to this definition, the tourists make no active contribution towards conservation, but instead simply seek to minimise the damage caused by their presence (Ward, 1997). Panos (1995, p.4)

defines ecotourism, as an "...industry which claims to make a low impact on the environment and local culture, while helping to generate money, jobs and help the conservation of wildlife and vegetation. It claims to be responsible tourism which is ecologically and culturally sensitive". Lastly, Filion *et al* (1994) define ecotourism as being "...travel to enjoy and appreciate nature" (p.236), and estimate ecotourism to be worth approximately US $233 billion annually. According to Filion *et al* (1994), nature-based tourism accounts for some 40 to 60 percent of international tourism, and wildlife based tourism for 20 to 40 percent. Ceballos-Lascurain (1993) suggests that 70 percent of all international travel expenditure is due to nature tourism. Hence, the impact of ecotourism within individual countries can be considerable.

Furze *et al* (1996) maintain that "...ecotourism, a non-consumptive use of resources, appears to have the potential to serve both conservation and local development roles well" (p.146). Tourism is a lucrative business, and hence has the capacity to transfer large exchange, including foreign exchange, to a particular tourism destination which can potentially be captured and used for the conservation of natural areas and the development of surrounding communities. According to Furze *et al* (1996), "...conservation is essentially about values, and any activity that 'captures' or 'uses' the values that people hold for natural resources, and educates about, and enhances support, for maintaining these values, is likely to be beneficial in a conservation sense" (p.146). With regard to local development, tourism may provide a 'vehicle' or 'conduit' for translating the values that others have for a natural area into benefits for those who live in or near it (and may hence bear the costs associated with conserving the resource). The development of the ideal situation is, however, problematic in that it assumes that tourism does not impose costs and problems of its own upon the natural resources and local people (or at least that if it does, the benefits from tourism are greater than the problems it creates). Hence, according to Furze *et al* (1996), ecotourism is motivated by the goals of conservation and local development. They recognise that for operators, any tourism must essentially be financially viable, but however, hold the (somewhat naïve) perspective that many managers, planners, development workers and local people are primarily interested in ecotourism for its conservation and local benefit, not its financial offerings.

However, as Western (1993) points out, the label 'ecotourist' is being adopted by virtually any operation remotely connected with nature or cultural travel, a fact which is highlighted by Filion *et al's* (1994) definition of ecotourism as being all tourism that takes place in the natural environment. This emphasises some of the problems with the use of such a term. Through the use of the title 'ecotourism', groups and agents take advantage of the connotations associated with the word to give their activities legitimacy (deserved or undeserved). Tourism marketing agencies and tour operators have a vested interest in implying to people that their activities are environmentally conscious and benign.

The true impact, however, of both conventional and alternative forms of tourism development on a host destination can only be realised through a thorough review of its present and potential economic, social and environmental costs and benefits (Ward, 1997).

2.8 The Costs and Benefits of Tourism to Host Destinations

Despite the various altruistic and well-meaning reasons often put forward to support the case for tourism development (such as its social and environmental benefits), it is the economic advantages that provide the main driving force behind tourism growth (Cooper *et al*, 1993). In assessing the economic impacts of tourism, the level of economic development of the destination area, the nature and degree of foreign ownership of tourist facilities, the employment of indigenous labour, the provision of infrastructure by the government, and the type of tourist, are the key elements that should be considered (Ryan, 1991).

2.8.1 Economic Benefits of Tourism

The economic benefits of travel and tourism to a host destination can be either direct or of a secondary nature (Schneider, 1993). The first economic benefit worth noting is the capacity for international forms of tourism to earn foreign currency and to positively influence a country's balance of payments account (which is the net difference between the value of exports and the cost of imports). With the world tourism 'trade' presently valued at around US $320 billion annually, the potential for

tourism to influence the accumulation of wealth in developing regions is considerable (Ryan, 1991; Williams, 1998; Shaw and Williams, 2004).

A second advantage of tourism is its ability to bring about economic regeneration and provide support for marginal economies through diversification. Evidence of this exists within numerous rural economies. For example, in areas such as Wales, Devon and Cornwall in Britain, less profitable hill farm economies have been widely sustained by the development of farm holidays and tourist activities such as fishing, riding, shooting, bed and breakfasts businesses and camping (Williams, 1998).

Thirdly, various economists hold the view that an advantage of tourism is its ability to attract inward investment to finance capital projects. Even though the industry is still dominated by small-scale local firms, there is a movement towards greater levels of globalisation in the organisation of world tourism and the development of large-scale international and multinational operators, each with the ability to move significant volumes of investment to new tourism destinations. These firms are distinctive not just due to the way in which they have extended their horizontal linkages (where firms merge with, or take over other companies operating in the same sector), but more specifically through the development of vertical linkages in which, for example, an airline purchases or develops its own travel company and takes on the ownership of hotels. An example of such a firm is the Grand Metropolitan Group, which has ownership in international hotels, holiday camps, travel agencies, package tours and restaurants (Williams, 1998).

In developing nations, the role of foreign investment in creating a tourism industry through, for example, hotel and resort construction, can be an essential first step, out of which an indigenous industry may eventually develop. Without the aid of foreign investment, start-up capital may not be available locally. Even though profits from foreign-owned firms will tend to leak-out of the economy, local taxation on tourists and their services can provide funding to assist in the formation of new indigenous firms and key infrastructure development (roads, water and power supplies), around which the further expansion of tourism may then be based (Williams, 1998).

Fourth, tourism may bring about development through the encouragement of new economic linkages and increase the gross domestic product (GDP) of an economy. Tourism's contribution to GDP will vary greatly according to the level of diversity and the number of linkages within an economy. In a developed country, tourism's contribution to the GDP is generally quite small. For example, in the United Kingdom, the share has usually been about 1.0 to 2.0 percent. However, in developing nations, which lack economic diversity or which, through remoteness, have limited trading patterns, the contribution of tourism to GDP can be substantial (Williams, 1998).

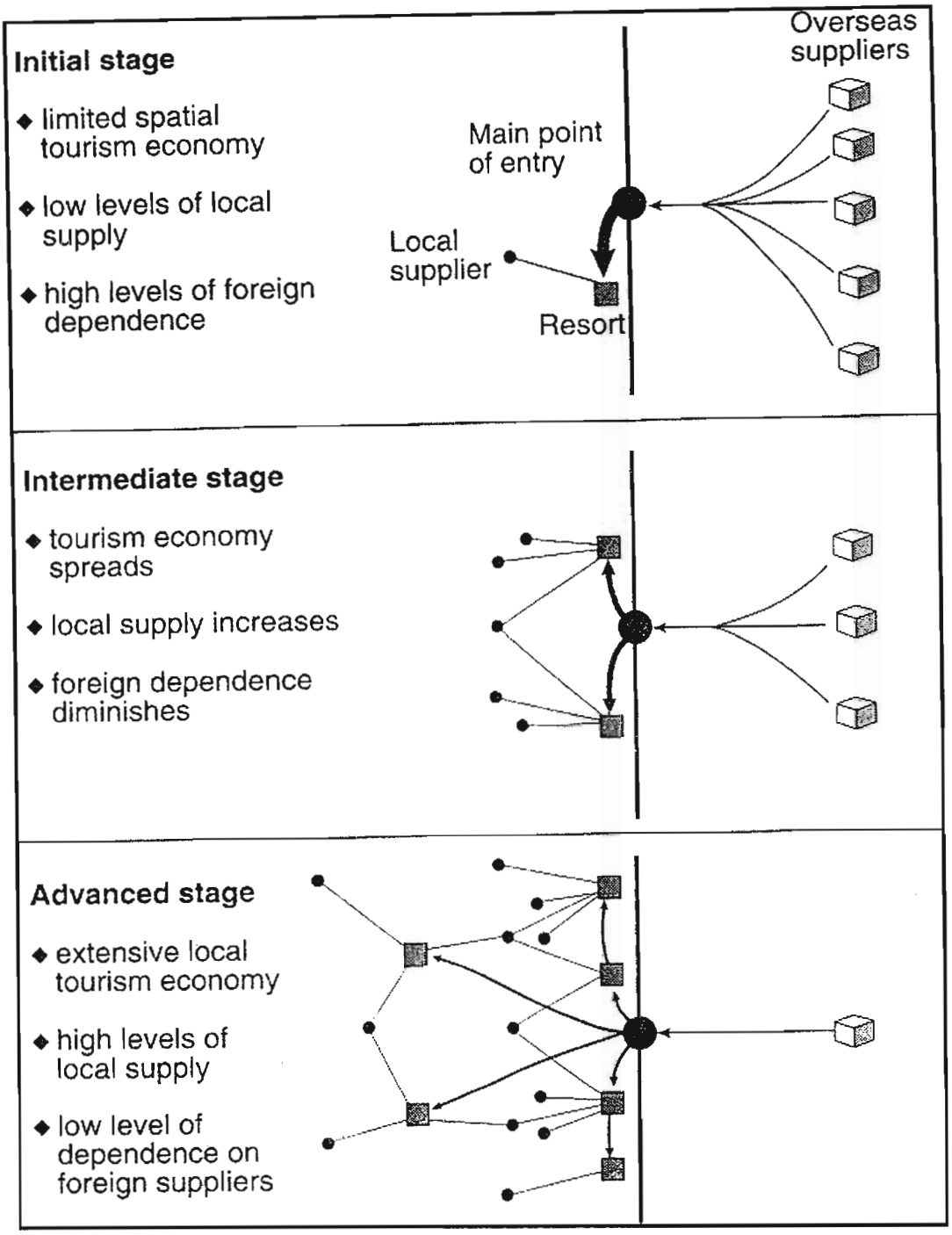
The mechanisms by which tourism development may generate new-firm formation and the development of new linkages are complex, but may be explained with the aid of a model. Figure 2.3 reflects a scenario in a less developed country in which, at an initial stage, local provision of goods and services is limited and the industry is highly dependent on foreign and overseas suppliers. After some time, there is an increase in the number of tourism businesses, and they become more widely spread. Profits (or expectations of profit) spread through the local economy, and existing or newly formed local firms begin to take up some of the supply market. This results in the levels of foreign dependence diminishing as these local linkages emerge. Finally, a mature stage is reached in which a broadly based local tourism economy has been created with developed patterns of local supply and minimal dependence on foreign suppliers (Williams, 1998).

2.8.1.1 The Multiplier Effect

The measurement of the economic impact of tourism on rural economies is far more complicated than just calculating the level of tourist expenditure. In attempting to quantify tourism's contribution to the economy of an area, the multiplier effect must be considered (Cooper *et al*, 1993).

The original concept of the multiplier is taken from the ideas of R. K. Kahn and John Maynard Keynes, as developed in their seminal works of the 1930s (Ryan, 1991). The possible contribution of tourism development to the wider formation of economic growth, inter-firm linkages and the generation of income is often assessed through what is termed the multiplier effect. Multipliers attempt to measure the effect of

Figure 2.3: Tourism Development and the Formation of Economic Linkages



Source: Lungren, 1973.

tourist expenditure as it re-circulates within a local economy. Tourist spending is originally introduced as direct payment for goods and services such as accommodation, food, local transport and souvenir purchases. In turn, the providers of these services re-spend a percentage of their tourism receipts in, for example, making their own purchases, in payment of wages of employees, or in taxes to local

government. These transactions form further flows of income and extend the indirect linkages of tourism well beyond the immediate core of the industry (Williams, 1998).

The aim of multiplier analysis is therefore to establish the impact generated in any given tourist destination, for every dollar that is spent on the tourist product (Alex, 1997). The multiplier concept is summed up in its simplest form by Eadington and Redman (1991). The "greater the amount of local/regional resource utilisation, and the lower the proportion of imported goods that enter into local consumption and production expenditures, the higher the multiplier" (p. 52).

The multiplier process can be divided into three levels of effect. Firstly, a direct effect, which is the original injection of revenue into the local economy by the tourist, for example, through the payment of a hotel bill. Secondly, an indirect effect, which consists of a second wave of spending by the recipients of initial expenditures, in purchasing the goods and services required by the tourists. An example of such spending is the purchase, by the hotelier, of local goods for the hotel restaurant. Thirdly, an induced effect, which consists of further spending by the beneficiaries of the direct and indirect effects, on goods and services for their own consumption. An example of such spending is the purchase of clothing by the hotel waiter (Williams, 1998).

Multipliers are usually expressed as a ratio in which the predicted increase in income associated with a unit of currency is stated. Therefore, a multiplier of 1.35 would indicate that for every $1 spent, a further $0.35 is generated by the indirect and induced effects. However, the scale of the multiplier will fluctuate, depending upon the extent of development within the economy, the type of tourism and the degree to which the local economy can supply the tourism industry from its own resources and, hence, the extent to which the leakage effects may be minimised (Williams, 1998).

2.8.1.2 Creation of Employment

One of the most notable direct advantages of tourism is that of public and private employment (Mathieson and Wall, 1982). However, the number of jobs generated by

tourism, the type of skills that are required and the type of worker that is needed must also be considered (de Kadt, 1979).

Tourism employment can be classified into three levels. Firstly, that of direct employment in businesses that market goods and services to tourists, such as hotels and restaurants. Secondly, that of indirect employment resulting from tourist expenditures in activities such as manufacturing and wholesaling that supply goods and services to tourism businesses. Examples of indirect employment are present in construction, agricultural and manufacturing industries. The extent of indirect employment available is determined by the level of integration of the tourism industry with the rest of the local economy. Therefore, the higher the level of integration, the greater the level of indirect employment. The third level of classification consists of investment-related employment found in construction and other capital goods' industries (de Kadt, 1979).

In the initial stages of tourism development most jobs are held by people from the immediate area. As tourism grows and the facilities increase, migrants can become a large part of the local labour force. This often occurs when resorts are placed in sparsely populated areas where little or no tourist activity has previously taken place (de Kadt, 1979).

Tourism not only creates jobs and business opportunities directly related to travel, such as hotels and attraction establishments, but it also helps diversify and stabilise the local economy. Tourism tends to create new employment opportunities in the host community and therefore influences migration patterns in two chief directions. It aids in retaining citizens who would migrate away, particularly unemployed or underemployed youths in economically marginal areas. Secondly, it also attracts outsiders who are seeking economic opportunity or employment and who often originate from other divisions of the economy, particularly agriculture. Tourism may also aid in attracting additional industry to the community, thus creating new and increased economic opportunities and jobs (Schneider, 1993). Cohen (1954, p.76) states that tourism "...encourages new economic activities in ancillary services and thus indirectly creates new opportunities for economic mobility among the locals".

One of the most noted impacts of tourism on employment opportunities is the creation of a new division of labour between the sexes and within the household. Young women now have the opportunity to secure jobs in tourist services such as hotels or in the production of crafts and souvenirs for the market (Schneider, 1993).

2.8.2 Negative Economic Impacts of Tourism

Even though tourism can bring significant economic benefits to host destinations, governments and local communities, it is also associated with negative consequences (Schneider, 1993).

The tourism industry is seasonal and therefore employs people on a temporary or part-time basis (Schneider, 1993). Tourism employees are usually laid off work during the low season. As a result, the tourism industry cannot provide secure, meaningful jobs for many local residents, and their bargaining power for better wages and conditions is reduced (Blank, 1989; Williams and Shaw, 1991). The residual effects of underemployed or unemployed people for the remaining 'non-peak' seasons create an economic drain on the town's welfare support systems (Schneider, 1993). In addition to tourism employment being seasonal and part-time, the industry creates low-quality and low paid jobs that do not help workers, especially women, escape their cycle of poverty. Also, tourism employment offers few or no benefits, provides very little advancement possibilities, and requires only low level, or no entry skills (Martha, 1993). This criticism is particularly relevant for small rural communities, where tourism is often the economic mainstay and major employer (Blank, 1989; Martha, 1993).

In determining the contribution of tourism to the creation of employment, the type and stage of the tourist destination needs to be considered. The number of jobs available, their nature and who is employed will vary throughout the growth, decline and rejuvenation of the tourist resort. Large international hotels and resorts, generally, create more jobs than smaller local ones, pay higher wages and generate more foreign exchange. However, they also tend to import more, have less linkages with the local sector, and provide few entrepreneurial opportunities for the local community (Harrison, 1992).

Despite the various economic benefits of tourism, researchers have become more and more sceptical about the industry's real contribution to the economic development of destination areas. Since the early 1970s analysts have increasingly highlighted the point that the earlier guarantees of tourism multiplier effects have not materialised in most Third World destinations. The predominant form of traditional, western-oriented mass tourism that has been established in so many less developed countries makes demands for services and products that can rarely be manufactured locally due to many of these destinations having extremely narrow resource bases (Ioannides, 1995). This results in the tourism industries of many less developed countries relying heavily on imported foreign foods, liquor, furniture, air conditioners, and building materials, which lead to high leakages of capital and a reduction in the balance of payments (Wilkinson, 1989).

Tourism is both a labour intensive, as well as a capital intensive industry, and creates external costs which tend to escalate as the industry develops. These include operational costs for research, promotion and personnel, as well as educational costs associated with the training of service employees, business owners and community residents (Hudman and Hawkins, 1989; Schneider, 1993). However, most developing countries have insufficient capital available to support the development of tourism. To address this problem governments often reduce the cost of tourism investment by granting exemption from taxes on the costs of capital goods, granting public subsidies which reduce investment costs, offering tax incentives, which make interest on capital investments tax-deductible (especially on foreign capital), enabling losses to be written off for the purpose of tax levied on tourist activities, and taxing incentives for foreign investment in tourism (Hudman and Hawkins, 1989).

2.8.3 Social Benefits of Tourism

Not only is tourism a matter of economics and income, it is also a social issue since it requires that community residents share their hometown with outsiders. Numerous social advantages exist for a community that has a tourism industry. It facilitates a cultural exchange between hosts and the visitors, and brings new ideas for improvement to the community. This can modify or improve local attitudes towards their culture. In fact, there are cases in Ireland where tourism supported the survival

of an almost extinct form of folk art, and also stimulated a renewed interest in developing new art styles of considerable merit, for retail to tourists (Schneider, 1993).

Tourism can also encourage civic involvement and pride within a community. In some instances it has fostered increased cohesiveness and activated stronger protection of traditional culture. Tourism revenue can help to support community facilities and services, such as a local recreation facility, that might otherwise not be affordable (Schneider, 1993).

It has been suggested that education in developing countries, at the post-primary level, has expanded partly due to an increase in tourism. The expansion of tourism increased the demand for educated, literate and skilled personnel from both the public and private sectors. Furthermore, as social mobility increases, achieved indicators of status such as education, occupation, linguistic ability, overseas travel, and dress will displace the traditional birth-ascribed values of skin colour and family birthright in traditional developing and agricultural communities (Schneider, 1993).

2.8.4 Negative Social Impacts of Tourism

The investigation into the physical effects of tourism shows that cultural differences between the tourists and the hosts underlies much of the damage caused by tourism. Tourism may create crowding, congestion and pollution, as well as social and cultural changes in destinations or host communities (Schneider, 1993; Martha, 1993). The cultural changes are numerous. Firstly, traditional work patterns in the host community are disrupted by tourism development. This is especially evident in rural areas, where people leave agricultural and other traditional jobs for those in the tourism industry. This can result in a change in the time of day one works. Under traditional agricultural practices, the work is done during daylight hours, while in the tourism industry work during night hours is often required (Martha, 1993).

The 'demonstration effect' is another direct social impact, caused by the development of tourism in rural areas. This occurs when tourists influence changes in the behaviour of host communities.

Some cultural modifications due to tourism are not as readily apparent, such as changes in eating habits of the host culture (Martha, 1993). For example, eating habits changed in the Kingdom of Tonga, a Polynesian island country. Food is imported for the tourists due to the belief that tourists prefer familiar cuisine. Even though many tourists enjoy the local fruits and bread, few would be content for long on the relatively bland Tongan diet of yams, taro and fruit. Furthermore, native Tongans are favouring the imported foods over their traditional diets and this competition negatively affects Tonga's agricultural industries, because demand for locally grown products has decreased (Martha, 1993).

Tourists do not have to come into direct contact with the host community for social impacts to occur. New employment opportunities, brought about by the growth of tourism will result in social change. Additionally, the provision of new forms of communications, transport and infrastructure, for tourism development will also influence this process of social change. These impacts are considered to be 'indirect social effects' and are evident within many sectors of economic development, not just tourism (Cooper *et al*, 1993).

An increase in income levels, from the creation of employment for the local population within the tourism industry, and the spread of the monetized sector, will alter traditional consumption patterns. Such changes, if they include consumer durables such as television and radio, will expose the host community to a wider range of wants, and speed up the process of social change. These effects may be viewed as 'induced social impacts' (Cooper *et al*, 1993).

The severity of the social impacts resulting from tourism development will be dependent upon the difference in socio-cultural characteristics between hosts and guests (Cooper *et al*, 1993). It is suggested by Inskeep (1991) that these differences include the following:

- Basic value and logic systems
- Religious beliefs
- Traditions
- Customs

- Lifestyles
- Behavioural patterns
- Dress codes
- Sense of time and budgeting
- Attitudes towards strangers

Tourism development may also lead to changes in the arts and crafts of the host culture. Tourism, firstly leads to a resurgence of local art forms. This increased demand can lead to a mass production of the art, a lowering of its quality and value, and the loss of its meaning to the artisan. The traditional music of a host culture can also be negatively affected in the same way by tourism development (Martha, 1993). The language of the host community, if different from that of the tourists, is affected. Language is one way in which the host community can remain distinct from the visitors. However, the language of the hosts will inevitably change to accommodate the tourists. Also, members of the host society who learn the language of the tourists are more employable and valuable to the tourism industry (Martha, 1993).

According to Allen and Hamnet (1995), compared to the absolute poverty of the majority of individuals in a Third World host community, the tourists seem extremely affluent, which is usually manifest in their appearance and behaviour. Dressed in 'designer fashions, wearing expensive watches and jewellery and sporting the latest in hi-tech photographic equipment, they (the tourists) frequent luxury hotels and expensive restaurants. The price of even one meal in such establishments is likely to be more than what a local will be paid in one month' (Allen and Hamnet, 1995, p. 207).

Some researchers even go as far as describing tourism as 'whorism' and blame the sector for dismantling traditional communities and promoting undesirable lifestyles including prostitution, drug addiction and crime (Erisman, 1983). Thailand stands out as a prime example of a destination that has thrived on the proliferation of sex tourism. Today, Bangkok has thousands of brothels, massage parlours, and go-go bars employing an estimated four hundred thousand prostitutes (Kelly, 1993). This in turn has led to a proliferation in sexually transmitted disease, including HIV/AIDS in the country, which is a direct result of the expansion of the tourism industry.

2.8.5 Environmental Benefits of Tourism

The environment is perhaps one of the most important contributors to the desirability and attractiveness of a destination. Scenic sites, amenable climates and unique landscape features have an unquestionable influence in tourism development and the spatial distribution of tourist movement. Consequently, sustainable development (which can be defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Eber, 1992, p. 1)) is needed to preserve the environment as an asset for the tourism industry (Buhalis and Fletcher, 1992). Therefore, as Mathieson and Wall (1982) state, there should be a symbiotic relationship between tourism and the environment.

National tourist organisations also recognised the importance of natural resources for continued tourism activity and therefore concentrate on preserving and enhancing attractions. This may lead to the adoption of a number of administrative and planning controls, and the initiation of several projects. It can therefore be said that "tourism provides the incentive for 'cleaning up' the overall environment through control of air, water and noise pollution, littering and other environmental problems, and for improving environmental aesthetics through landscaping programmes, appropriate building design controls, and better building maintenance" (Inskeep, 1991, p. 343).

Additionally, most tourists themselves are becoming increasingly environmentally conscious. Apart from the alternative forms of tourism, in which isolated and unspoiled natural settings are visited, the trend for 'green considerations' is emerging in the mass tourism market as well (Buhalis and Fletcher, 1992). The "protection, conservation, renovation and transformation of historical and heritage sites, monuments, and buildings have also been stimulated by tourism activity. As tourists express their demand for these sites, they help finance their preservation" (Buhalis and Fletcher, 1992, p. 5). Numerous existing attractions, throughout the world, would never have survived without contributions from the tourism industry (Mathieson and Wall, 1982).

Tourism can also stimulate the creation of natural parks, and conservation units. As a direct result of the tourism industry, on a global scale, millions of plants have been

planted and wild animals and rare and endangered species protected (Mathieson and Wall, 1982).

Lastly, the increasing demand for an unspoilt and protected environment is leading to an attitude change within the tourism industry. Tourists are becoming less and less prepared to spend their holidays at crowded, spoilt and unhealthy destinations. This trend has helped local people realise the importance of conservation for the economic success of tourism (Inskeep, 1991). As a result, the preservation of natural environments is becoming a prime consideration for the entire tourism industry and the bodies which regulate it (Buhalis and Fletcher, 1992).

2.8.6 Negative Environmental Impacts of Tourism

Even though tourism has done much to conserve fragile ecosystems and provide unique natural opportunities for many, it also brings several environmental disadvantages with it (Ioannides, 1995). The increasing tourist demand placed on Third World destinations, especially during the peak tourist period, cannot normally be satisfied by the limited natural resource base in a host area. Hence, a number of problems are generated (Buhalis and Fletcher, 1992).

Some of the most common environmental problems that arise from tourist development include damage to various ecological elements such as wildlife habitats and flora, which often constitute the tourism heritage of the host country (Vellas and Becherel, 1995). Tourism development can cause extinction and irreversible environmental damage. It is noted, for example, that "...there are more plant and wildlife species indigenous to Hawaii that have become extinct, or are now considered endangered, due to resort development" (Schneider, 1993, p. 79). Tourism may also degrade the quality of sensitive natural or historic sites. The excessive concentration of high-rise hotels along beach-fronts, the building of durable walkways, stairs, lighting, lookout points and informal areas for tourists, and the destruction of historical monuments through vandalism and theft can adversely influence the image of these historic and natural places of interest (Schneider, 1993; Vellas and Becherel, 1995).

However, as Gunn (1994) points out, it is unfair to lay the blame for environmental damage entirely on the tourist sector without first trying to understand why this problem has arisen. Gunn (1994, p. 243) states, that although large numbers of visitors to a fragile ecosystem will certainly lead to depletion, "...most environmental damage is caused by a lack of plans, policies and action to prepare for any economic growth". A common problem is that those who tend to benefit the most from tourism development, such as developers, usually refuse to be held accountable for their projects' environmental externalities, such as pollution of rivers, seas, lakes and ground water by the discharge of impure water and sewage from coastal resorts (Ioannides, 1995; Vellas and Becherel, 1995).

Ecologically sensitive sites, such as wildlife habitats, are not the only areas that may experience damage through tourism development. Tourism can also be responsible for degrading valuable agricultural land through reducing it into property for recreational purposes, and modifying land values and usage in areas surrounding such developments (Schneider, 1993). For example, with the growth of the tourism industry in the Okavango Delta in Botswana, much traditional agricultural and grazing land was converted into wildlife sanctuaries, tourist resorts and lodges, resulting in the displacement and migration of many traditional communities.

Even though the impacts of tourism development on the environment are debatable, it can be stated that "tourism development always changes, sometimes degrading or even destroying, the very qualities of an area that made it attractive to its first tourists" (Martha, 1993, p. 218).

As this study focuses on aspects of both tourism and natural resource management, the following section provides a general overview of natural resource management and the nature of tourism impacts upon a destination area's natural resources.

2.9 Natural Resource Management

According to Gibbs and Bromley (1989), natural resources may be defined as "...those components of an ecosystem which provide goods and services useful to man" (p.22). The majority of the world's population, being rural and impoverished,

are directly dependent upon the earth's resources of land, water, fauna and flora for their livelihoods. Such resources must be considered as potentially renewable, capable of sustaining individuals and of being sustained indefinitely. However, the realisation of this potential is dependent upon numerous factors, including the institutional arrangements that people choose to adopt regarding natural resource utilisation (Gibbs and Bromley, 1989).

Natural resources are assets for the generation of human contentment or utility, including income. However, this misleadingly narrow resource concept ignores the interdependency of the various components of ecosystems and underestimates the ecological importance of natural resources. According to this perspective, natural resources are merely factors of production, they are not desirable in themselves, but rather a means to an end in that they are valuable only to the extent that they can be used to create goods and services – water for hydro-electric power, for example, or fishery resources for food and recreational opportunities. This ambiguous view of natural resources is found in most textbook and dictionary definitions. The Concise Oxford Dictionary, for example, defines natural resources as "means of supplying a want or stock that can be drawn upon"; and this concept may be conveniently summarised by Zimmerman's (1951) dictum: "resources are not, they become". Resources are culturally defined; to the North American Indians of 1800, oil and gas were not regarded as resources; whereas they are for the contemporary North American society. Such definitions embody the concepts of 'usefulness', now or later, and the 'resource supply' available to be used by humans (Grima and Berkes, 1989).

Traditionally, economists have highlighted three broad categories of factors of production: natural resources, human resources and capital. Natural resources were regarded as 'free gifts of nature'. In reality, however, they are almost never altogether free, and this is true for both renewable and non-renewable resources. In the case of the former, they are free only if they can be replenished entirely without cost. If the amount taken exceeds the natural capacity of the resource to renew itself, then the resource will eventually disappear unless it is restored at some cost. The over-fishing of a lake or the over-harvesting of a forest are prime examples in this regard. Even where the level of exploitation of the resource is less than the self-renewal capacity, one group of users may be restricting another use of the resource

or displacing another group of users dependent upon that use (Gibbs and Bromley, 1989).

In terms of non-renewable resources, the very depletion of the resource may be considered a cost to society. Even if a large supply of the resource remains elsewhere, these remaining supplies are likely to be more costly to develop than the supplies just exhausted. Furthermore, the use of a resource as a factor of production may levy costs on the use of other resources in that ecosystem. For example, the burning of high-sulphur coal can affect fisheries through the acidification of lakes, or forests by making trees more vulnerable to disease. These form part of the social costs of production or 'externalities' in the environmental economist's jargon – the cost which is not considered within the market. An externality is, in essence, a failure of the market system (Gibbs and Bromley, 1989). As Kneese and Bower (1968) point out, this market failure tends to be pervasive in the economy, rather than rare.

In this sense, then, natural resources are not free, as the depletion of fish by one group of fishers, for example, creates externalities for another group. The pollution of a river's waters by an industrial plant generates externalities for the recreational users of that river. It may be true that the first group of fishers and the industrial plant in the above examples regarded their resources as free goods. However, sooner or later, some other group – or society as a whole – will end up paying for the cost of treating resources as free goods (Gibbs and Bromley, 1989; Pattullo, 1996).

2.10 Tourism and Natural/Environmental Resources

Given the massive growth in, and scale of, tourism activity around the world, and the international tourism growth potential for the foreseeable future (Latham, 1990; Shaw and Williams, 2004), the impact of tourism on environmental quality should be of interest and relevance to academics, decision-makers and tourism operators alike. The ever increasing concern amongst the general public about environmental issues and problems, such as pollution and habitat destruction, is reason enough for those involved with tourism to show an interest in the relationship between tourism development and the use of natural or environmental resources. This is because tourism is dependent upon environmental resources and may be prone to changing

attitudes towards environmental quality amongst both tourists and the communities which host them (Hunter and Green, 1995).

Tourism's dependence on natural or environmental resources is not difficult to appreciate. Increasingly, tourism has grown in areas able to offer distinct and attractive environmental features. Romeril (1985), for example, states that natural assets and attractions, such as 'sun, sea and sand', are generally the major reason for a destination's popularity. Similarly, Morrison and Selman (1991) suggest that tourism tends to develop in areas which are able to provide natural amenities, coupled with human assets such as exotic cultures and historic sites. In fact, there is no tourist activity which does not rely on natural or environmental resources in some way (Pattullo, 1996). Natural environments not only provide features which directly attract tourists, but also support tourism by fulfilling other requirements. For example, natural resources are used to provide tourists with heat, power, food, laundry facilities, sanitation facilities and drinking water. Similarly, the natural environment is required to absorb the wastes generated by tourists, including refuse, sewage and other effluents. Natural resources are not, however, either infinitely renewable or endlessly resilient to the pressures placed upon them by tourism. In other words, the pressures exerted on the environment by the increasing number of tourism developments may be of such magnitude that the tourism activity becomes unsustainable, and declines over the long term (Hunter and Green, 1995).

With the increasing awareness of environmental issues comes the possibility that tourists will become more discerning in their choice of destination area, and that host communities will become less amenable to the possibility of environmental degradation, even if tourism provides substantial economic and social benefits. It appears likely that there will be increasing pressure to find ways of integrating tourism-related economic development with the sympathetic management and use of natural or environmental resources. The need to give greater consideration to the relationship between tourism development and environmental protection is increasingly being recognised in the tourism literature (Hunter and Green, 1995).

Liu *et al* (1987), for example, studied the opinions of residents on the impacts of tourism in Hawaii (a tourism-dominated island resort) and North Wales (a modest tourism centre). The residents of both Hawaii and North Wales stated that the

protection of the environment was their highest priority, above social costs and cultural and economic benefits. It was concluded from this study that the protection of the environment is essential for the continued success of any tourism destination. Tribe *et al* (2000) argue that only an ecological-minded tourism industry will safeguard its prospects for future growth through this decade and into the next.

2.11 The Nature of Tourism Impacts

The impact of tourism on the natural environment can result from the construction and operation of tourist facilities or services and the activities of tourists themselves. They may be short or long term, positive or negative, local, regional, national and even global, direct, indirect and induced. This diversity in the range and type of impact reflects, in part, the characteristics of the tourism industry, and makes the comprehensive appraisal of the environmental consequences of tourism development complex. Hunter and Green (1995, p. 12) highlight the major difficulties involved in the assessment of tourism impacts:

- Tourism is an amalgam of inter-linked activities and it is often difficult to distinguish impacts arising from the individual activities;

- Tourism activities may be pursued by both tourists and by the host population and occur together with other economic activities, again presenting problems for those attempting to separate impacts arising from tourism alone;

- Environmental change occurs naturally, making tourism-induced change more difficult to quantify;

- A lack of detailed knowledge of environmental conditions prior to the advent of tourism in an area frequently limits the viability of post-development investigations;

- In addition to direct environmental impacts, tourism may have indirect effects and induce further development and associated impacts, which may be difficult to identify and not amenable to straightforward assessment;

- Some tourism impacts will only manifest themselves over the long term, making the establishment of casualty links more difficult; and

- Components of the environment are inter-linked, and so a tourism activity which impacts on one aspect of the environment may produce an indirect impact on another.

Additionally, the impacts of tourism development are not necessarily restricted to destination areas, but will spread over a wider area depending on the strength of the linkages (economic, social, transport, environmental) between the host area and its surroundings, making the task of a comprehensive impact assessment even more problematic as the scale of analysis widens (Briassoulis, 1991).

The difficulties highlighted above are reflected in the limited (both geographically and in terms of the environmental components considered) nature of the majority of tourism impact studies in the literature. Pearce (1989) considers a number of other related factors to be responsible for the fragmented state of tourism impact studies. These include a lack of resources, defective assessment methodologies, a failure to appreciate the process of tourism development and the lack of an inter-disciplinary research ethos (Hunter and Green, 1995). More specifically, some of the more apparent impacts of tourism on a destination area's natural/environmental resources are presented in the following sub-sections:

2.11.1 Impacts on the Natural Environment

2.11.1.1 Floral and Faunal Species Composition

The ecological balance of an area, which can take up to thousands of years to evolve into a mature, self-regulating, stable system, can be disrupted and even destroyed by a variety of tourism-related activities in a relatively short period of time.

These range from the numerous impacts associated with the wholesale removal of vegetation and related wildlife, to more subtle, less obvious, effects on animal behaviour (Table 2.1). Any activity which changes floral and faunal species composition is a potential threat to an area's ecological balance. It may also threaten the local social culture which has evolved as part of this ecosystem and, therefore, is dependent upon it for continued survival (Hunter and Green, 1995; Pattullo, 1996).

Table 2.1: Some of the Potential Impacts of Tourism on the Natural Environment

Impact Aspect:	Potential Consequences
Floral and faunal species composition	Killing of animals through hunting; Killing of animals in order to supply goods for the souvenir trade; Inward or outward migration of animals; Trampling and damage of vegetation by feet and vehicles; Destruction of vegetation through the gathering of wood and plants; Change in extent and/or nature of vegetation cover through clearance or planting to accommodate tourist facilities; and Creation of a wildlife reserve/sanctuary or habitat restoration.
Pollution	Water pollution through discharges of sewage, spillage of oil/petrol; Air pollution from vehicle emissions, combustion of fuels for heating and lighting; and Noise pollution from tourist transportation and activities.
Erosion	Compaction of soils causing increased surface run-off and erosion; Change in risk of occurrence of land slips/slides; Change in risk of avalanche occurrence; Damage to geological features (e.g. tors and caves); and Damage to river banks.
Natural Resources	Depletion of ground and surface water supplies; Depletion of fossil fuels to generate energy for tourist activity; Change in risk of occurrence of fire; Depletion of mineral resources for building materials; Over-exploitation of biological resources (e.g. overfishing); Change in hydrological patterns; and Change in land use for primary production.
Visual Impact	Facilities (e.g. buildings, chairlift, car park); litter; sewage; and algal blooms.

Source: Hunter and Green, 1995, p.14.

A common example of the large-scale destruction of an ecosystem through vegetation removal to accommodate the development of tourist facilities is the case of the European Alps. Here, hundreds of square kilometres of forest have been destroyed and replaced by ski pistes, cable cars, pylons, buildings and access roads, resulting in the slopes being less able to absorb and retain water, leading to increased susceptibility to soil erosion, floods, landslides and avalanches (Tyler, 1989; Pattullo, 1996). In certain areas of Switzerland, the evacuation of tourists is a regular occurrence at certain times of the year due to the avalanche risk brought about by deforestation (Pattullo, 1996). Similar large-scale destruction of forest ecosystems has occurred elsewhere in areas used predominantly for winter skiing (Tribe *et al*, 2000). A series of mudslides and floods in north and south Tyrol, Austria, for example, occurred over a three week period in July 1987, killing more than sixty people, leaving 7 000 people homeless and fifty towns, villages and holiday centres wrecked (Romeril, 1989). Severe ecological consequences have also been reported in other popular tourist sites, such as the Mediterranean Basin, due to deforestation (Grenon and Batisse, 1989; Pattullo, 1996). The direct loss of often rare and ecologically valuable floral and faunal species from an area through clearing for tourism development has been reported in, for example, Cyprus (Andronikou, 1987), the reefs and coral formations of areas in the Caribbean (Holder, 1988), and Majorca in Spain (Morgan, 1991).

Vegetation cover may also be destroyed or damaged through trampling by walkers or crushing by tourist vehicles. The loss of vegetation cover in this way is generally accompanied by soil compaction and the deterioration of soil structure, leading to increased surface water run off, soil erosion and a decline in species diversity. The crushing of vegetation by vehicles has been identified as a problem in some of Kenya's national parks and wildlife reserves (Sindiyo and Pertet, 1984; EIU, 1991; Pattullo, 1996), while McLaren (1998) argues that access to the Bavarian National Park in Germany had to be restricted due to unacceptable environmental degradation by tourists and other recreators, including damage to flora and fauna, trampling and soil erosion. In frequently used skiing areas, compaction of the surface snow layer by skis and snow vehicles may prolong the spring thaw reducing the growth period for plants beneath, thereby disrupting local ecological balance (Hamele,1988). This provides a clear example of indirect impacts which may be

difficult to foresee and which reflect the often complex inter-dependency of plants, animals and their physical environment (Hunter and Green, 1995).

The negative impacts of tourists' feet are not restricted to terrestrial ecosystems. Hamele (1988) notes that the damage to coral reefs resulting from the contact of divers' flippers and the choking effect of disturbed sediment can be severe. Blake and Becher (1997), referring to tourism in the Pacific Island States, report that a large proportion of the coral and small fish life around the margins of boat jetties and hotel beaches has been irreparably damaged or destroyed due to excessive walking on coral reef beds by tourists at low tide. The action of motor boats, surf boards and yachts also damages aquatic ecosystems, such as reed beds, while the construction of marinas to house these crafts can completely destroy, or degrade beyond repair, important mangrove and other lagoon habitats (Jackson, 1984).

Tourism may also lead to the selective removal, collection or killing of (often rare) plants and animals. McLaren (1998), for example, argues that the natural environment of some African countries is increasingly being destroyed through pressures from wildlife tourism. The collection and use of wild plants and animal species in countries like Senegal for the manufacture and marketing of trophies, gifts and souvenirs for the tourism industry has become a major problem. This is occurring even where the animals are 'protected', and contributes to the development of ecological imbalances. The collection and killing of marine animals for the souvenir trade has also been highlighted, for example, in the Mediterranean and Pacific Islands (Milne, 1990), with marked impacts on local ecology. Hunter and Green (1995) describe the collection of shells, rocks and plants on the unique Galapagos Islands by poorly controlled groups of tourists from private yachts and small tourist boats often venturing beyond marked tourist routes. Also observed in this study was the growing disturbance of plant and animal life close to tourist trails, leading to fears that animals would ultimately avoid certain areas, as animals may well migrate out of an area used by tourists if harassed. Alternatively, the over-reliance of tourists on certain animal species as a source of food may prove to be disadvantageous to the animals in the long term (Sindiyo and Pertet, 1984).

During certain times of the year, tourists may have a severe impact on animal breeding success, and the protection of breeding grounds from the impact of tourists

has become a matter of great contention in some areas in recent years. The beaches of some resort developments along the Mediterranean coasts of Greece and Turkey, for example, are used by rare turtle populations as breeding grounds, whereby clutches of eggs are laid in chambers dug out of the sand. In certain resorts, conservationists have taken to distributing multi-lingual leaflets warning tourists not to lay towels on the sand (which can reduce the temperature of the eggs incubating beneath), not to use beach umbrellas (which can spike whole clutches) and not to light bonfires at night (which can disorientate hatchlings trying to reach the sea) (Greth, 1989; Morrison and Selman, 1991; Pattullo, 1996). This example demonstrates both the strength of feeling that can be generated against tourism impacts, and the profound impacts of seemingly innocent and relatively passive tourist activities. Similar fears over tourist disruption to important breeding grounds have been expressed by, for example, Erize (1987) with reference to cruises to the Antarctic, and Walker (1991) when considering the management of Heron Island in the Great Barrier Reef of Australia, for sea-bird and sea-turtle breeding areas.

Even in the non-breeding period, animals will still experience stress from the presence of tourists. Many of the animals (including birds) in mountain forests, for example, are severely disturbed by the activities of skiers and walkers. In trying to escape the tourists, the rapid use of their energy resources can result in starvation if the disturbance is frequent, especially during harsh winter months (Pattullo, 1996). The disturbance caused by tourists, amongst others, is thought to be responsible for an 80% decline in the giant petrel population of Ardly Island in the South Shetland Islands of Antarctica (Tribe *et al*, 2000). The insensitivity of tourists towards nesting penguins is also noted in the study, where these animals were deliberately disturbed for wildlife photography. The almost daily disturbance by tourists of cheetah populations in the Serengeti National Park, Tanzania, has seriously affected these animals (McLaren, 1998).

In certain areas, the sheer rarity of the plant and animal communities results in their destruction even before tourists arrive. Such is the case for the island of Saint Martin in the West Indies, where plans to construct a land/sea link to facilitate tourism development destroyed many of the unique plant communities of the island through colonisation by incoming alien species (Monnier, 1987). Similarly, the unique flora of the Tiede National Park in Tenerife, Canary Islands, is at risk from exotic seeds

carried unintentionally on the shoes and bodies of park visitors (Romeril, 1989; Hunter and Green, 1995).

On a more positive note, there are numerous studies in the literature which emphasise the actual or potential benefits of tourism to the fauna and flora of an area. Tourism may result in the establishment, or continued existence, of a wildlife park or reserve, for example. Similarly, habitat restoration appears to be increasingly associated with tourism projects. Luxmoore (1989) concludes that wildlife tourism and controlled hunting are amongst the less intensive forms of wildlife exploitation, and tends to be of greater benefit to wildlife conservation than the more intensive forms of wildlife exploitation and production. McLaren (1998) states that many national parks and wildlife reserves in Kenya have benefited greatly from tourist expenditure and associated publicity, while others owe their continued existence to the tourism industry. In discussing the network of protected natural areas in the Sahel, spanning several African countries, Hunter and Green (1995) argue that tourism provides the national governments of the Sahel states with an economic incentive for the continued protection of the natural areas. Alternatively, O'Donnell (1991) stresses the positive role of rural or agri-tourism in preserving the rural environment and culture of Ireland. Briereton (1991) recognises the development and upgrading of national parks and natural attractions in parts of the Caribbean resulting from tourism. Finally, Martinez-Taberner *et al* (1990) in describing the major criteria required for the restoration of a coastal marsh ecosystem in Majorca, Spain, conclude that such projects are essential to maintaining the appeal of an area for tourists.

2.11.1.2 Pollution

Pollution entails the anthropogenic introduction of substances or energy into the environment. Pollution may affect human health, cause harm to living resources and ecological systems, damage to structures or amenity, and interfere with the legitimate use of the environment. Since tourism (as a legitimate use of the environment) relies, in part, on amenity value, one might reasonably assume that the tourism industry has a history of concern over the potential threat posed by pollution to the success of destination areas. This is, however, generally not the case. Additionally, the tourism industry itself has been, and still is, a major contributor to

environmental pollution throughout the world. As such, the industry is in the ignominious position of contributing directly to its potential downfall over the long term in certain regions (Hunter and Green, 1995).

One of the most common consequences of rapid tourism development is the overload on local sewage treatment and disposal infrastructure. Water pollution from untreated or partially treated sewage effluent can have severe implications for local aquatic life and also for the health of tourists and locals who use the contaminated waters for drinking, bathing and to process food. Sewage pollution can affect the ecological balance of an area, often resulting in a marked decline in species diversity, by reducing dissolved oxygen in water and sediments, by smothering sea, lake and river beds and by promoting the accelerated eutrophication (nutrient enrichment) of water bodies (Hunter and Green, 1995).

It is generally very difficult to disaggregate water pollution (indeed, any form of pollution) resulting from tourism from other sources within a given area. However, there are numerous examples where tourism makes a significant contribution to local total pollution loads, sometimes to the apparent detriment of the tourism industry. Becheri (1991), for example, reflects upon the effect of algal blooms, resulting from accelerated eutrophication, on the Italian beach resort of Rimini, on the Adriatic coast, in the late 1980s and early 1990s. Even though the area was already suffering from environmental problems associated with over development, the blooms acted as a catalyst on these negative impacts and tourist booking fell by over 25 per cent in 1989 compared to the previous year. An accelerated decline also occurred in many other areas of the mid- and northern Adriatic coast (Bywater, 1991). Elsewhere, sewage related tourism problems are also documented. For example, localised marine pollution has been implicated in the degradation of mangrove seagrass and coral reef ecosystems in Fiji (Pattullo, 1996), and similar effects have been observed in Jamaica, where sewage effluent has contributed to the growth of seaweeds damaging the attractiveness of beaches and killing coral reefs which protect the shorelines from erosion (Henry, 1988; Pattullo, 1996). Sewage pollution is recognised as a significantly destructive impact of mass tourism in areas as diverse as Cyprus (Andronikou, 1987), the Norfolk Broads of England (Owens and Owens, 1991), the lakes of the Shinshuu mountain region of Honshu Island in Japan (Watanabe, 1990) and the mountain streams of the French

Pyrenees (Smith and Jenner, 1989). Westlake and White (1992) contend that the pollution of Venice's lagoon has detracted from the city as a permanent place to live.

Raw or partially treated sewage may contain a range of micro-organisms, principally bacteria and viruses, which are pathogenic to humans. Those bathing in sewage-contaminated waters or eating sewage-contaminated foods (especially shellfish) are placing themselves at risk from diseases such as gastro-enteritis, hepatitis, polio, typhoid and dysentery. Boissevien (1996) highlights the health hazards to tourists and locals from sewage entering the Mediterranean, thereby decreasing the attractiveness of a beach holiday as public awareness of potential hazards increases. Health surveys conducted in the coastal resorts of Brodum and Cesme in Turkey, found foreign tourists and children to be particularly at risk from sewage-related diseases contracted by bathing during the high season (Kocasoy, 1989). According to Ceballos-Lascarain (1994) and Crossette (1995), the faecal contamination of drinking water supplies by tourists is a major cause of gastro-intestinal disorders in the villages of Nepal's Everest region. Survey results regarding bathing water quality in English coastal resorts demonstrate a significantly greater incidence of sewage-related disease amongst swimmers as compared to non-swimmers. Such impacts and subsequent concerns may directly result in loss of tourist activity in affected resorts (Boissevien, 1996).

Air pollution may accompany tourism developments during the construction of tourist facilities and its associated infrastructure, from the burning of fossil fuels to provide heating and power, from the exhausts of private tourist's vehicles, and in the transport of tourists to destinations by air, road, rail, etc. Whereas the impacts of water pollution tend to be restricted to relatively small and well-defined areas, the impact of tourism on atmospheric quality takes on a wider, and even global perspective through, for example, global air travel. Similarly, tourism-related demand for electricity often results in the increased contribution of fossil fuels and the release of pollutants such as carbon dioxide and other oxides of sulphur and nitrogen in areas far removed from popular destinations. Carbon dioxide is a significant contributory gas to global warming and the so-called 'greenhouse effect', while other oxides of sulphur and nitrogen are the causative agents of dry and wet acid deposition (Hunter and Green, 1995).

These wider regional and global issues have also been recognised in the literature. Brandon (1996), for example, considers the relationship between environmental quality, airlines and tourism on a world-wide scale, and suggests that there is a need for concern for the natural environment by both the airlines and the tourism industry through the adoption of measures to reduce emissions into the atmosphere. These sentiments are echoed by Pattullo (1996), who argues that aviation contributes some two per cent of global carbon dioxide emissions from fossil fuels, and that airlines should become more sensitive to the tourism and environment debate, especially with regard to long-haul tourism to developing countries. Hamele (1988) argues that aircraft, tourists' private cars and heating systems in tourist accommodation all contribute to air pollution, causing acid precipitation, forest blight and soil degradation. Briand *et al* (1989) claim that urgent action is needed to prevent further tourism-related damage to the vulnerable landscapes of the European Alps, which are increasingly suffering from forest blight. Hausler *et al* (1995) report a decrease in tourism income to the Black Forest area of Europe as a result of reduced appeal due to damage caused by acid precipitation. These authors also cited the example of the St Goatherd Pass in Switzerland, where weekend traffic alone releases 30 tonnes of nitrogen oxides, 75 kg of lead and 25 tonnes of hydrocarbons into the local atmosphere, resulting in tree damage. Acid deposition also leads to the degradation of fresh water quality, with a range of impacts on aquatic flora and fauna, and on human health.

On a more localised level, dust generated by various forms of construction for the tourism industry is a common problem for both locals and tourists. Noise pollution in the form of excess noise from air and road transport, construction, music, etc., is a very common annoyance for residents, tourists and wildlife alike in many resorts. Harris (1991) notes the disturbance to nesting penguins and other species by tourist aircraft in the South Shetland Islands of Antarctica. The noise pollution caused by artificial snow generators used extensively in skiing resorts is highlighted by Smith and Jenner (1989). Tourists to the Shark Bay area of Western Australia have ranked noise resulting from hovercraft as a high adverse environmental impact, which also disturbs fish and wildlife (Harris and Leiper, 1995).

Tourism, however, does not necessarily always create or add pollution problems. Increasingly, it would appear that infrastructure for the treatment and disposal of

waste is being developed or upgraded (if often, rather belatedly) to accommodate tourism growth, with net benefits for local environmental quality. Hadjivassilis (1990), for example, focuses on the installation of some 200, largely coastal, small waste-water treatment plants in Cyprus. These have helped alleviate sewage-treatment and management problems. Tourism may also encourage the implementation of improved pollution prevention legislation in some areas (Liu *et al*, 1987; Becheri, 1991; Tribe *et al*, 2000).

2.11.1.3 Erosion

Tourist activity can, as expressed earlier, result in damage to natural geological features and river banks, as well as soil erosion resulting from trampling, vegetation removal, vehicular compaction, etc. The latter issue is considered by Brooke (1990) in a study which focused on the often complex inter-dependencies between various components of an ecosystem. The Norfolk Broads is one of England's most popular holiday destinations particularly for motor boat cruises along the network of inland freshwater canals, which make up the area. According to Brooke (1990), it is becoming increasingly impossible to ignore the severe water pollution and bank erosion problems, which are to some extent inter-linked. Accelerated eutrophication resulting from water pollution, to which tourism makes a significant contribution, has caused a decline in the population of emergent and submerged plants along most of the Broads' waterways. Consequently, this has decreased the resistance of river and canal banks to erosion from tourists' motor cruisers through boat-wash and inappropriate mooring. Increased erosion has led to a decrease in reed-bed flora, and so a cycle of ecological imbalance is complete.

Perversely, erosion of sand from popular resort beaches is causing problems in some locations due to the siting of buildings and other superstructures constructed too close to the high-water mark (Hunter and Green, 1995). The erosion of natural geological features from general pressure caused by visitors can also present problems, as in the case with Ayers Rock in Australia (Harris and Leiper, 1995).

2.11.1.4 Natural Resources

In constructing and maintaining tourism developments, the natural resources (biological and physical, renewable and non-renewable) of a destination area will become altered and depleted. Indeed, the use of resources may not necessarily be restricted to the immediate vicinity and may involve the importation of construction materials, for example, from another region or country, extending the potential environmental sphere of influence of a particular development. As with air pollution, the use of natural resources by the tourism industry can have global environmental implications, for example, the use of tropical hardwood tree species in building/decorating work, or the use of fluorocarbons (CFCs). The majority of studies in the tourism literature, however, tend to concentrate on the use of natural resources within, or very close to, the destination area (Hunter and Green, 1995).

One resource which has caused much conflict between locals and those involved in tourism, is fresh-water. Tourists are generally attracted to warm, relatively dry climates where precipitation and fresh-water supplies are scarce. In the Mediterranean, for example, hotels can easily consume 400 litres of water per guest per day for washing, showering, swimming pools, watering lawns, etc., while locals may require a maximum of 70 litres per person per day (Hamele, 1988). Evidence from the Caribbean suggests that tourist water consumption can be over three times higher than local resident use (Pattullo, 1996). Furthermore, so called 'environmentally friendly' or 'green' forms of tourist recreation, such as golfing, often require large quantities of fresh-water for watering purposes, exerting an unsustainable drain on renewable supplies. Tananone (1991), referring to the boom in golf courses for tourists in Thailand, states that each golf course requires an average of 3000 cubic meters of water per day.

In Goa and other southern India beach resorts, tourism has also led to the exclusion of local communities from valuable water supplies (Chopra, 1991). Similarly, Briguglio *et al* (1996) report of an increasing lack of adequate supplies of high quality drinking water for both tourists and residents in some Caribbean resorts. Milne (1990) highlights an interesting sequence of environmental impacts which occurred in some off-shore island resorts in the Pacific. As these islands have a very limited supply of fresh-water, salt water was used in septic tanks. The salt in the

water, however, inhibits the natural breakdown of sewage by micro-organisms, leading to the leakage of poorly treated sewage into surrounding coastal waters, with inevitable damage to marine life.

With regard to the use of artificial snow generators in skiing resorts, Smith and Jenner (1989) report that these machines require millions of litres of fresh-water, making sudden demands on feeder lakes and affecting their ecology. Tourism development may require the construction of a new water supply reservoir, and topographical factors may dictate that this be sited in an ecologically sensitive area, or on high quality agricultural land. Water impoundment also often reduces river flow, altering the ecology of the channel and reducing its ability to dilute pollution (Romeril, 1989). Changes in local hydrological drainage patterns can also result from tourism-induced urban expansion. Localised flooding may occur due to the replacement of natural soil surfaces with impermeable tarmac or concrete. On a more positive note, rapid tourism growth in Cyprus has promoted the installation of waste-water treatment plans to allow the re-use of water for agricultural irrigation purposes (Briguglio *et al*, 1996).

The depletion of other physical resources has also been associated with tourism development. The extraction of sand from beaches and coastal waters for use in concrete is a common practice, and this can impact upon tidal current patterns and visual and recreational amenity, with implications for both tourist satisfaction and wildlife (Smith and Jenner, 1989). Threats to the long-term supplies of animal species which are used as a food source can also occur to satisfy tourists demand. Problems of tourism-induced over-fishing have been noted in some parts of the Caribbean, for example. Harris and Leiper (1995) reveal that lobster and conch, particularly favoured by tourists, have been significantly affected. Shark Bay in Western Australia is an example of a remote and fragile area suffering from overfishing problems (Dowling, 1991). The over-exploitation of wildlife may negatively affect the local ecological balance to such an extent that there are serious repercussions for the local human population (Hunter and Green, 1995).

Vegetation can also be adversely affected. In some small Pacific Island States the growth in demand for handicrafts and the development of mass-production techniques has placed a strain on vegetation resources. The majority of the wood

used for carvings in Cook Island, for example, is now imported (Hall and Page, 1996). An increase in the rate of deforestation to provide fuel-wood for tourists has even been noted in Khumbu National Park in Nepal's Everest region (Crossette, 1995). More generally, Ahmad *et al* (1990) state that tourists visiting the Himalayas do not respect the regulations when camping, using local firewood for heating and cooking, thereby creating fire-hazards. Changes in the distribution of land use for primary production often follows tourism development, through direct loss following urban expansion or indirectly as a result of changes in land values. The loss of agricultural land has also been reported in various studies (e.g., Jackson, 1984; Milne, 1990). Conversely, Sindiyo and Pertet (1984) with reference to tourism in Kenya, found that the expansion and intensification of agriculture necessary to sustain tourism led to encroachment and pollution problems.

2.11.1.5 Visual Impact

Litter is a seemingly pervasive consequence of tourist activity and one which can significantly detract from the quality of the natural environment and act as a hazard to wildlife. Most mass tourism resort destinations suffer from litter (especially from the increased consumption of canned and boxed take-away foods), giving the landscape an unclean and untidy appearance. Even remote destinations, where tourist use is still minimal, suffer from this particular problem (Hunter and Green, 1995). Referring to litter problems in the Khumbu National Park, Nepal, Crossette (1995) reported that despite requirements that visitors remove or bury trash, campsites and trails are becoming increasingly littered. In some places, streams have become so polluted with rubbish that trekkers are warned not to use the water.

Visual impairments of the quality of the natural environment may follow as a result of water pollution. Sewage can detract from the visual (not to mention olfactory) amenity of waters and beaches and relatedly, algal blooms can be very unsightly, detracting from the appeal of water courses or areas. Venice, for example, the most famous of all Adriatic tourist destinations, experiences pollution generated algal blooms in its lagoon. The algae reproduce up to 35 000 tons a year and as it decomposes it produces a stench that permeates the city and encourages large infestations of flies. Local estimates are of a resultant 30 percent fall in tourist

arrivals and Riccione hoteliers alone have put the cost to themselves at 45 million Pounds (Tribe *et al*, 2000).

Badly designed, sited and constructed buildings and other tourist facilities are a common consequence of many tourism developments, frequently detracting from the visual amenity of the natural environment by, for example, blocking views. Tyler (1989), focusing on tourism in developing countries, comments that all too often this has meant the construction of glass and concrete blocks which are not in keeping with the local environment. Such 'architectural pollution' has been highlighted on a global scale where there has been a failure to integrate resort infrastructure with aesthetically pleasing characteristics of the natural environment, whether this be coastal, rural or mountain (Hunter and Green, 1995).

2.11.2 An Overview of Tourism Impact Literature

The sheer magnitude of the impacts that tourism development can have on environmental quality, clearly demonstrates that there can be no simple, definitive view of the relationship between tourism and the environment as both individual impacts and net effects may be detrimental, neutral, benign or enhancing, according to a number of factors operating in a given place at any time. To grasp the full range of actual or potential impacts of tourism one is required to consider its many inter-related characteristics, such as those of the tourists themselves, the nature of the tourist destination and the role of various tourism agents (OECD, 1981). Much will be dependent upon the types of tourist activities pursued at the destination area; whether these are essentially active or sedentary, for example. The nature and severity of impacts can also be regarded as a function of the intensity of site use, the transformational potential of the tourism development, the resilience of local ecosystems and the rapidity of development (Cohen, 1978).

There is evidence to suggest that pressures on environmental resources and the resultant loss of environmental quality occur most commonly where development has been rapid, and in areas with little or no planning control. Problems arising under these circumstances may be more severe where there is a lack of technical or financial means to provide adequate infrastructure, and where tourist demand exerts marked seasonal peaks in activity (OECD, 1981).

Given the greater diversity of tourist and tourism types, tour company operations and destination area characteristics, it is of little surprise that opinion in the tourism literature on the specific and net effects of tourism on environmental quality can appear confusing and, not infrequently, clearly contradictory. As with any industry, the site-specific, activity-specific and dynamic nature of impacts makes generalisation virtually impossible and, arguably, a redundant exercise (Hunter and Green, 1995).

2.11.3 Impact Amelioration Measures

Butler (1991) provides a review and critique of measures which can be used to lessen the pressure tourism places on the environment. According to Butler (1991), there are four principal approaches to impact mitigation, namely, changing the tourist type, changing the resource for resistance, education, and curbing tourist numbers.

Changing the tourist type, involves moving away from mass tourism to some form of 'alternative tourism', involving a different type of 'responsible' tourist who is willing to pay for basic food and accommodation, on a small-scale, without the services and facilities demanded by the traditional mass tourist. According to Butler (1991), this amelioration measure is, however, ineffective for a number of reasons. Firstly, it is argued that there are insufficient alternative tourists to supply all the tourist destinations. Secondly, a significant proportion of the expenditure of such tourists is made outside of the destination area. Thirdly, even the most environmentally conscious tourist can bring about environmental degradation. Finally, there is also the potential that small-scale alternative tourism operations may well grow and change through time into potentially more destructive forms.

An alternative possibility is to try and change the resource base so that it is better able to withstand the pressures from tourism. This could involve the laying of reinforced and marked trails through a wildlife park, for example, to discourage tourist exploration and reduce footpath erosion. Making the resource more resilient may also be particularly appropriate in and around fragile heritage resources, such as ancient monuments. Although not changing the resource base directly, the provision of new infrastructure, such as sewage treatment works, can reduce environmental degradation while the number of tourists remains constant (OECD,

1981). Butler (1991) recognises that maximising the resistance of the resource base has been successful in some cases, but questions its acceptability to tourists and others in situations where any change to the resource might reduce its attractiveness, or where tourists are doubtful of the need for protection.

Butler (1991) is also sceptical of a management approach founded on curbing tourist numbers, whether this is used to reduce numbers where they are already too high, or to limit numbers before they reach some 'carrying capacity' level. Butler (1991) notes that attempts to reduce tourist numbers are rare, due to the risk of jobs and the standard of living amongst the host population which a reduction in tourist revenue might bring. Butler's (1991) scepticism is supported by the experience of some mountain regions, for example, where proposals to reduce tourist numbers have met with resistance from local populations in response to a potential loss of income (May, 1991).

For Butler (1991) the foremost, and possibly only, prospect of reducing tourism pressures in existing centres over the long term lies with education. There is a need for developers and others in the industry, governments and other public sector agencies, local populations, and tourists themselves to better understand the environmental impacts of tourism, and concepts of sustainable tourism growth and natural resource and environmental management. The primary impediments to the implementation and success of education strategies include:

- An unwillingness by developers to consider factors other than profit margins, especially where controls over development are weak;

- A failure by central and local governments to appreciate that it is not necessarily in their own best interests to facilitate the development of every resource for tourism;

- A lack of co-ordination and consistency of approach both between and within different tiers of government, and the assumption that local populations will always assume the role of guardians of the quality of the local environment (Butler, 1991, p. 48).

The next section introduces the concept of sustainability and its role in tourism development.

2.12 The General Concept of Sustainable Development

'Sustainable development' is a phrase which gained popularity with the heightened environmental awareness of the late 1980s. There is no universally accepted definition of sustainable development. However, the most widely cited definition is found in the World Commission on Environment and Development (1987) report which brought the term into common usage. According to the World Commission, sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs " (WCED, 1987, p. 43). This most basic definition appears simple, yet much controversy and fundamental debate is concealed within this apparently self-evident phrase (Hunter and Green, 1995).

The above definition contains two crucial aspects: human needs and environmental limitations. Firstly, with regard to human needs, the World Commission places particular emphasis on the essential needs of the world's poor, to which over-riding priority should be given. Such needs include sufficient food, clean water, shelter and clothing, as well as the normal human aspirations for those things which contribute to a better quality of life (e.g., higher standard of living, greater consumer choice, more security, increased vacation opportunities, etc.). As such, the World Commission regards the major objective of development as the satisfaction of human needs and aspirations, and where basic needs are not being met, the World Commission states that sustainable development clearly requires economic growth. The position of the World Commission is less obvious with reference to the fulfilment of aspirations in areas where basic needs are already met. If development implies economic growth, it is by no means certain that sustainable development requires

economic growth in developed countries, and this is one of the contentious issues surrounding the definition of sustainable development. The World Commission merely states that the ability to satisfy aspirations for a better life should be extended to all people, and that perceived needs are culturally and socially determined, so that sustainable development requires the promotion of values that encourage consumption rates that are ecologically credible over the long-term and to which all people can reasonably aspire (Hunter and Green, 1995).

This view certainly does not exclude the continued pursuit of economic growth in developed countries, and this may explain why many politicians have eagerly embraced the concept of sustainable development, with its apparent acceptance that environmental concern need not mean the abandonment of economic growth as a political goal. The same enthusiasm can be found in the response of some agencies involved in the promotion of tourism to the concept of sustainable development (Hunter and Green, 1995). Munt (1992), referring to tourism and sustainable development in developing countries, argues that sustainability has been seized upon by the political mainstream as a convenient concept for ensuring 'sustainable' material growth.

For the World Commission, meeting human needs and aspirations means equity or fairness with regard to access to wealth-generating resources and in the distribution of developing costs and benefits. Equity of access to resources is essential for the realisation of sustainable development, and this applies both in the sense of current social justice (intra-generational equity) and in terms of fairness between generations (inter-generational equity). The apparent inability of tourism developments in many developing countries to deliver fairness of access to benefits to local populations is a frequent criticism in the tourism literature (Hunter and Green, 1995).

The second critical idea contained in the World Commission's concept of sustainable development, is that of limitation. There is a limit to the natural environment's ability to satisfy present and future needs, and this applies to the need for non-renewable resources, renewable resources and the 'free services' which the natural environment supplies in terms of waste accumulation, climate regulation, clean air and water, food resources, etc. Such limitation is analogous to the notion of a

destination area's 'physical carrying capacity' for tourism activity. Hence, calls in the tourism literature for environmental conservation are echoed in the World Commission's belief that sustainable development does not endanger or degrade the natural systems that support life on Earth. In the words of the World Commission:

> 'Different limits hold for the use of energy, materials, water and land. Many of these will manifest themselves in the form of rising costs and diminishing returns, rather than in the form of any sudden loss of a resource base. The accumulation of knowledge and the development of technology can enhance the carrying capacity of the resource base. But ultimate limits there are, and sustainability requires that long before these are reached, the world must ensure equitable access to the constrained resource and reorient technological efforts to relieve the pressure' (WCED, 1987, p.45).

The notion of limiting development to within environmental carrying capacities applies to the several types of resources. Therefore, renewable resources, such as animal and plant species used for food, clothing, building, fuel, medicines, etc., need not be depleted for future generations provided that the rate of use does not exceed the limits of natural regeneration and renewal, and this is the concept of 'sustainable yield'. As previously discussed, tourism-related activities, such as collection and killing for the souvenir trade, exceeded the sustainable yield for individual species and since species interact, the reduction in numbers of one species through human exploitation may have ecosystem-wide impacts, and the maximum sustainable yield must also take account of these potential system-wide effects (Hunter and Green, 1995).

With regard to non-renewable resources such as fossil fuels, metallic and non-metallic minerals, the World Commission upholds the view that sustainable development requires that the rate of depletion of these resources should foreclose as few future options as possible. Essentially, a non-renewable resource should not be exhausted before acceptable substitutes or alternatives have been provided. Emphasis should, therefore, focus on economy of use, re-use and recycling. Lastly, the World Commission argues that the Earth's systems which support life, (atmosphere, oceans, fresh-waters, soils, rock formations) are too often regarded as

infinite or infinitely renewable 'free goods' for human activities like waste disposal. Negative impacts on these natural elements should be minimised so as to sustain the overall integrity of the Earth's ecosystems (Hunter and Green, 1995).
What should be clear is that sustainable development is a long-term and global endeavour. This should also be apparent from the more refined definition of sustainable development as: "a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and the institutional change are all in harmony and enhance both current and future potential to meet human needs and aspiration" (WCED, 1987, p.46).

As if such a process of change will not prove to be problematic enough, the concept of sustainable development itself is by no means unanimously accepted or interpreted in the same way. However, some interpretation is required before progress can be made in realising the goals of sustainable tourism development (Hunter and Green, 1995). To this end, a brief examination of the broader debate between economic development and resource conservation is focused on in the following section.

2.12.1 Sustainable Development and Conservation versus Development

Unfortunately, the more one focuses on the concept of sustainable development, the more illusory its apparent simplicity becomes. The term can be considered to represent different viewpoints according to one's bearing on the more general debate between economic development and resource conservation. The concept is flexible and can be moulded to 'fit' widely differing approaches to environmental management. There also appears to be little sign of an emergence of an accepted consensus view on the meaning and policy implications of sustainable development. Hence, it is perhaps too easy to assume that disparate groups, such as certain tourism developers and conservationists, will converge on an accepted interpretation of sustainable development so that the co-operation necessary to achieve sustainable tourism development will be forthcoming. The gulf that often exists between certain tourism developers and conservationists, for example, can be illustrated by considering two 'extreme' 'world-views' on the relationship between economic development and resource conservation as illustrated by Turner (1991).

At one 'extreme', are those who could be described as holding a traditional, resource-exploitative, growth-orientated view of resource management. They view the environment as a collection of goods and services of instrumental value to humans. Naturally, this is a strongly utilitarian and anthropocentric stance, and under this paradigm, intra-generational equity considerations are typically ignored, and it is immaterial who in a particular society receives the benefits or bears the costs of development. This stance would appear to have dominated much tourism development in developing countries to date. Also, future costs and benefits are given less weight than current costs and benefits. This can be justified on the grounds that the pursuit of economic development now, provides increasing material benefits, increasing consumer choice and need/aspiration satisfaction and, hence, improved human welfare. Resource scarcities can be mitigated by investment in new technologies to solve technical fixes and substitution mechanisms for environmental problems. As such, research and development expenditure (paid for by the prerequisite of continuing economic growth) contributes to a stock of human capital, including knowledge, that is inherited by future generations who will then be richer and more able to cope with any environmental cost burdens created by earlier generations (Hunter and Green, 1995).

For those who cling to this world-view, sustainable development can be regarded as the equivalent to sustained economic growth, with no particular need for resource conservation. However, in the context of tourism, this attitude might result in a direct and short-term threat to economic activity if the resource which attract tourists are undermined. With regard to the appraisal of development projects, programmes and policies, the typical approach under the resource-exploitative paradigm is to utilise conventional cost-benefit analysis (CBA) as a narrow measure of economic efficiency of alternatives. While environmental impact assessment (EIA) might form part of the appraisal process, to gain a wider appreciation of associated environmental impacts, it is likely that the EIA would be regarded as a small, separate, 'add on' to the CBA. What's more likely is that the full range of environmental impacts will fail to be fully considered within the decision-making process (Hunter and Green, 1995).

At the other 'extreme' of the development/conservation debate is what can be viewed as the extreme resource-preservationist, zero-growth world-view, which may

also be described as a 'deep ecology' or 'ecocentric' or 'bioethics' paradigm. Within this viewpoint, nature is not regarded as merely a conglomeration of goods and services of instrumental value to humans, but rather it is seen as having intrinsic or inherent value in itself. Nature therefore does not have to provide any function or service to humans in order to be of value. This notion presents constraints for decision-makers since intrinsic value cannot be quantified and therefore, is unable to appear on the balance-sheet of a particular development project, policy or programme. The effective result of this philosophy would be to keep the use of natural assets to the absolute minimal, so as not to deplete intrinsic value more than is absolutely necessary. This therefore involves a complete abandonment of the traditional CBA approach to the assessment of alternative developments, and even the use of EIA might be seen as irrelevant, since EIA is essentially a tool used within an anthropocentric context which recognises, implicitly, the right of humans to exploit natural resources (Hunter and Green, 1995).

The extreme resource-preservationist view embraces only the use of technologies and products which minimise the loss of intrinsic value. Such an 'if in doubt, do nothing' approach to development and technological innovation can be criticised as overly constraining, and would naturally imply zero or negative world economic and human population growth. With regard to tourism, this might result in a tourist scene of a rather 'dull shade of green' (Pigram, 1990, p. 6). There is also the added risk that the conservation of intrinsic value in nature will be at the expense of social justice and even survival in the developing countries where economic growth is required to meet basic needs and increase quality of life. However, to the extreme preservationist, the idea of sustainable development might be seen as inherently ambiguous, since economic growth, as currently understood, can be regarded as fundamentally unsustainable. O'Riordan, for example, writes: 'Sustainability is becoming accepted as the mediating term which bridges the gap between developers and environmentalists. Its beguiling simplicity and apparently self-evident meaning have obscured its inherent ambiguity' (O'Riordan, 1989, p.93).

For O'Riordan, and others, sustainable development serves as a profound challenge to the existing status quo, requiring a break with the traditional growth mentality of politicians and most existing institutions of economic investment and resource allocation. As such, it is possible to view development which implies economic

growth as intrinsically unsustainable, and, therefore, the concept of sustainable development as inherently ambiguous (Hunter and Green, 1995).

The key point to the world-views outlined above is that sustainable development is not an objective, value-free concept, or even an idea which can be universally adopted by all parties involved in the development/conservation debate. The majority of the literature on tourism development and the environment, appears to have very little appreciation of this point. Munt (1992), however, recognises that the concept of sustainable tourism development is prone to flexibility of interpretation, and in examining the unfolding debate over new forms of alternative tourism and sustainable development in developing countries, he detects a dichotomy in the interpretation of sustainable tourism development. It is suggested that the viewpoint frequently adopted in indebted developing countries emphasises political and economic imperatives, while other interpretations reflect a 'quintessentially Western environmentalism' (Munt, 1992, p. 213). It is suggested further that such divergence may be indicative of a coming crises in attempts to create a 'greenprint' for tourism in developing countries (Hunter and Green, 1995).

Arguably, the most productive interpretation of sustainable development lies between the two extremes outlined above. A resource-conservationist, managed growth world-view (Turner, 1991) could be interpreted as the most pragmatic doctrine of environmental management, including the management of tourism. While there are many potential variants which could be included under this philosophical approach, it is intrinsically a modified or extended growth-orientated view. Although this standpoint retains an anthropocentric bias, allowance is made for the non-utilitarian values of intra-generational and inter-generational equity, as adopted by the World Commission on Environment and Development (WCED, 1987). In particular, this world-view involves an environmental stewardship ethic to protect the interests of future generations, so that they inherit a stock of natural resources no less (and preferably larger) than that inherited by the current generation. The forwarding of an equivalent stock of natural resources is sometimes referred to as the 'constant natural assets rule' (Pearce *et al*, 1989). This argument relies on the belief that the present generation does not 'own' the natural resource base, and so has no right to deplete the economic and other opportunities afforded by it (Hunter and Green, 1995).

Having highlighted the general concept of sustainable development, it can now be applied to the tourism industry in order to examine the theoretical and practical requirements and implications of sustainable tourism development.

2.12.2 Sustainable Tourism Development

Tourism development will only achieve long term success if careful planning and management are undertaken to deliver a successful tourism product. It is only recently, however, that the negative effects of tourism on a host destination have been recognised. As a result, concepts like environmentalism and 'green consciousness' have arisen, and the value of tourism to host destinations has been reassessed. This process has also led to the development of the concepts of sustainable tourism development (Cooper *et al*, 1993).

In recent years a considerable amount has been written about the need to adopt principles and policies of sustainable tourism development. However, surprisingly little appears to have been written, in depth, on the meaning and implications of sustainable tourism development. There generally appears to be an acceptance of the WCED (1987) principle of inter-generational equity combined with the hope that the various alternatives to mass tourism will fulfil this requirement in practice (Hunter and Green, 1995).

The concept of sustainable development results from the understanding that current generations are imposing too great a demand upon the natural environment to allow it to continue to reproduce and maintain itself at its previous level of stability (Butler, 1998). This concept of sustainable development has been applied to tourism. Sustainable tourism refers to tourism that is developed and carried out in line with principals of sustainable development (Hunter and Green, 1995; Tribe *et al*, 2000). Sustainable tourism development recognises the relationship or inter-dependency between the long-term viability of economic investment in tourism projects, programmes and policies and the favourable management of the natural, built and human resource bases. Thus, sustainable tourism development seeks to maintain and enhance the quality of life, and the quality of the tourist experience, at destination areas through the promotion of economic developments which conserve (and where necessary preserve), local natural, built and cultural resources.

Furthermore, sustainable tourism development recognises the linkages which exist between destination areas and the wider environment. Therefore it seeks to contribute to regional, national and global resource conservation and preservation measures in order to advance intra- and inter-generational equity of access to wealth-generating natural resources (Hunter and Green, 1995).

Aspects of this interpretation of sustainable tourism development are apparent in the tourism literature. One of the most thorough investigations of the meaning of sustainable tourism development is provided by Cronin (1990, p. 13), who presents the cumulative work of a number of Canadian academics, business people and government officials: 'In the case of the tourism industry, sustainable development has a fairly specific meaning - the industry's challenge is to develop tourism capacity and the quality of its products without adversely affecting the physical and human environment that sustains and nurtures them'.

Sustainable tourism development is reliant upon three conditions. Firstly, the resources of the environment must be protected; secondly, local communities must benefit both economically and in terms of quality of life; and thirdly, visitors must receive a quality experience. The concept of sustainable tourism is a very broad idea that refers to tourism that is long-lasting, integrated at the same time as diversified, participatory, and environmentally, economically, socially, and culturally compatible (Perez-Salom, 2001).

Therefore, sustainable tourism development means planning attractions in such a way that allows tourists to enjoy them while also having minimal impacts on the host environment and culture. Sustainable development can only occur when the quality of the environment and community life can be preserved indefinitely. To achieve this goal, the local community must be included in all stages of development (Hassan, 2000).

Cronin (1990, p. 13) further provides a list of criteria that need to be met for tourism developments to conform to the principles of sustainable development. These are that development should:

- Follow ethical principles that respect the culture and environment of the destination area, the economy and traditional way of life, the indigenous behaviour, and the leadership and political patterns;

- Involve the local population, proceed only with their approval and provide for a degree of local control;

- Be undertaken with 'intra-generational' equity in mind, i.e. with the idea of access to a fair distribution of benefits and costs among tourism promoters and host peoples and areas, not only now but in the future;

- Be planned and managed with regard for the protection of the natural environment for future generations;

- Be planned in an integrated manner with other economic sectors; and

- Be assessed on an ongoing basis to evaluate impacts and permit action to counter any negative effects (Cronin, 1990).

Cronin (1990) places considerable emphasis on the intra-generational facet of sustainable tourism development. It is necessary for sustainable tourism development to recognise the contribution that local communities and cultures make to the experience of tourists and that local people must share in the benefits of tourism developments. Relatedly, it is suggested that for sustainable tourism development to become a reality, local people and governmental authorities must show a willingness to participate, and be allowed to participate, in the shaping of the local tourism industry. The issue of local community access to the benefits of tourism development is crucial. This is particularly true for developing countries, as the general concept of sustainable development recognises the need for economic growth in these areas so that the quality of life can be enhanced and human aspirations satisfied. Concern for the protection of environmental resources (particularly natural resources) could be taken to the point where innovation and appropriate tourism development is stifled, thus removing the opportunity for the poor in the current generation to benefit from tourism development. Striking the right

balance between the accumulation of benefits for the current generation (especially the poor) and the protection of wealth-generating resources for future generations, goes to the heart of the issue of sustainable tourism development. The need for a suitable balance of concerns is summarised aptly by Pigram (1990, p. 6): "whereas sustainable tourism represents the cautious path to follow, prudence should be tempered by receptiveness to initiate and a willingness to judge developmental innovations from the standpoint of environmental acceptability".

This view appears to be largely in line with the resource-conservationist, managed growth world-view outlined earlier. Whilst rejecting the extreme resource-exploitative world-view, Pigram (1990, p. 6) also rejects the extreme resource-preservationist paradigm, and states: "'Ecological determinism' alone is no more defensible than 'economic determinism'". Such an interpretation also agrees inherently with the working definition of sustainable tourism development discussed at the beginning of this section.

Pigram's advocacy of sustainable tourism development as the cautious and discerning path, relates to inter-generational equity concerns. It is argued that sustainable tourism development should acknowledge non-utilitarian or 'hidden' values in environmental resources. According to Pigram (1990), these values include:

- Existence value – the satisfaction of knowing that a resource is being preserved even if there is no intention of putting it to use;

- Option value – the option of alternative future uses of the area if it is preserved; and,

- Bequest value – the satisfaction gained from the knowledge that a resource is not being used or developed to its theoretical maximum capacity, in the interests of future generations. Pigram argues that the tourism industry should adopt a 'safe minimum standard' approach to development which minimises the risk that irreversible changes will foreclose these hidden values for future generations (Hunter and Green, 1995, p. 72).

The English Tourist Board (1991, cited in Cooper *et al*, 1993, p. 87) provides the following principles that must be considered for the development of sustainable tourism:

- The environment has an intrinsic value that outweighs its value as a tourism asset. Its enjoyment by future generations and its long-term survival must not be prejudiced by short-term considerations;

- Tourism should be recognised as a positive activity with the potential to benefit the community and the host site as well as visitors;

- The relationship between tourism and the environment must be managed so that the environment is sustainable in the long term. Tourism must not be allowed to damage the resources, prejudice its future enjoyment and bring unacceptable impacts;

- Tourism activities and development should respect the scale, nature, and character of the places in which they are sited;

- In any location, harmony must be sought among the various needs of the visitors, the place and the host community;

- In a dynamic world, some change is inevitable, and it often can be beneficial. Adaptation to change, however, should not be at the expense of any of these principles;

- The tourism industry, local authorities and environmental agencies all have a duty to respect these principles and to work together to achieve their practical realisation.

These principles of sustainable tourism development are primarily based on the theory of carrying capacity (Tribe *et al*, 2000). Even though originally a wildlife ecology term, carrying capacity has been applied to humans and more specifically to tourists. It has been defined for the purpose of tourism as "...the maximum number

of people who can use a site without an unacceptable alteration in the physical environment and without an unacceptable decline in the quality of the experience gained by visitors" (Mathieson and Wall, 1982; cited in Tribe *et al*, 2000, p. 44). This definition implies that tourism's carrying capacity is concerned with the quality of the environment and the quality of the recreational experience. Pritchard (1992), in diversifying the understanding of carrying capacity, adds to Mathieson and Wall's (1982) definition by stating that carrying capacity is also concerned with the social and psychological capacity of the physical setting to support tourist activity and development. In addition, McIntyre and Hetherington (1991) also include reference to the ability of the local community, economy, and culture to support tourist activity in their explanation of tourism carrying capacity. As a result of all the variables present, it is difficult to accurately measure the actual carrying capacity of a physical setting. Therefore, as Ceballos-Lascurain (1994, p. 136), states "...actual carrying capacity can be a judgement call as to the acceptable level of change, both in terms of the resource and the satisfaction level of the visitors and the local community".

Finally, in order for present tourism trends to become sustainable, there needs to be a general shift away from short-term to longer term thinking and planning in tourism: "It is no longer acceptable for the industry to exploit and 'use-up' destinations and then move on" (Cooper *et al*, 1993, p. 273). An increasing number of tour operators and public authorities are becoming convinced that a change in attitudes and patterns of consumption is unavoidable – otherwise the economic basis of tourism would be undermined.

As highlighted, sustainable development requires local participation, and it is in light of the above that the following section focuses on the approaches to local participation in the tourism industry.

2.13 Promoting Sustainable Development and Combating Poverty: Local Empowerment and Participation

One strand of the neo-populist paradigm, with its focus on a bottom-up approach involving local people, concentrates on the notion of a continuum of participation. This moves beyond a passive acceptance and adoption of exogenous factors, such

as ideas and technologies on the part of the host countries, to an active situation in which, it is suggested, local people can solve their own problems and use opportunities to maximise and benefit from their indigenous skills. This is regarded as part of empowerment (Blaikie, 1996).

The same concept is also present in postmodernism ideals and occurs within sustainable development agendas. Participation by, and the empowerment of, local people was clearly identified in Agenda 21 as a key objective of sustainable development programmes (Agenda 21 is an action plan for sustainable development that emerged from the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992). Participation was viewed as the active involvement of people in decision making, which was extended to include empowerment, through which individuals, communities, regions and nations shape their own lives and the kind of society in which they live (Nelson and Wright, 1995; Slocum and Thomas-Slayter, 1995). As a process of empowerment, participation aids local people in identifying problems and becoming involved in decision making and implementation, all of which contribute to sustainable development.

2.13.1 Pro-Poor Tourism

An estimated 43 percent of the population (and more than 70 percent) of the rural population of sub-Saharan Africa live in poverty, where poverty is defined as having less than the equivalent of one US dollar per day. Poverty reduction strategies tend to concentrate on social sectors and public spending. However, it is clear that ambitious poverty reduction targets cannot be achieved without significant and steady economic growth (Ashley and Elliott, 2003).

GDP per capita in Africa is lower now than it was 30 years ago, and economic growth of at least seven percent per annum is required to meet the United Nations Development Assistance Committee Millennium Development Goals in the continent. There are, however, a few areas in which sub-Saharan Africa has a comparative advantage, and it is crucial to identify and exploit these to the full. In particular, it is important to identify means to 'pro-poor growth', which broadly means economic growth that increasingly involves the poor and less skilled (Ashley and Elliott, 2003).

For the greater majority of the rural poor, survival depends on combining agriculture with a diverse range of other livelihood activities. An important challenge is to identify and stimulate sources of growth in the non-farm economy, while also helping farmers to adapt to opportunities within more globalised commercial agriculture. Yet effective strategies for achieving diversified rural growth in poor parts of Africa are still proving elusive to government and donors alike (Ashley and Elliott, 2003).

Rural communities are pressed to generate growth in the face of economic restructuring, declining government services and funding, and threats to their natural resources. As such, rural tourism is becoming increasingly attractive as a mechanism for meeting these challenges, and growing numbers of planners, practitioners and academics believe that the future of rural communities rest with the economic, social and political opportunities created through tourism (Mair *et al*, 2001).

Many Third World governments view tourism as an important opportunity to diversify local economies. It can develop in poor and marginal areas with few other export and diversification options. Remote areas particularly attract tourists because of their high cultural, wildlife and landscape value. Tourism offers labour-intensive and small-scale opportunities compared with other non-agricultural activities, employs a high proportion of women, and values natural resources and culture, which may feature among the few assets belonging to the poor (Deloitte and Touche, 1999; Ashley *et al*, 2000).

However, the poorest may gain few direct benefits from tourism while bearing many of the costs. It is therefore important to mitigate these costs, while maximising the benefits to the poor. Strategies for promoting pro-poor tourism are emerging, suggesting that there is potential for much to be done. In the past, the search for market niches (e.g., eco-tourism, cultural tourism) has been dominant. Strategies to enhance net benefits to the poor need to be developed across the whole industry, drawing on a range of expertise to encourage pro-poor growth (Ashley *et al*, 2000).

Pro-poor tourism (PPT) can be defined as "...tourism that generates net benefits for the poor, which may be economic, social or environmental. As long as poor people

reap net benefits, tourism can be classified as 'pro-poor' (even if richer people benefit more that poorer people)" (PPT, 2003, p. 7). The British Department for International Development (DFID) was the first agency to promote the concept of PPT in 1999, focusing on strategies that enhance benefits and unlock opportunities for the poor, rather than expanding the overall size of the sector (Ashley *et al*, 2001).

Tourism's potential for being 'pro-poor' lies with four key factors:

- Tourism is a diverse industry, which increases the scope for wide participation, including the participation of the informal sector;

- The customer comes to the product, which provides considerable opportunities for linkages (e.g., souvenir selling);

- Tourism is highly dependent upon natural capital (e.g., wildlife, culture), which are assets that the poor may have access to, even in the absence of financial resources; and

- Tourism can be more labour intensive than such industries as manufacturing. In comparison to other modern sectors, a higher proportion of tourism benefits (e.g., jobs, informal trade opportunities) go to women (Ashley *et al*, 2001).

Strategies for pro-poor tourism can be divided into those that generate three different types of local benefits. These are economic benefits, other livelihood benefits (such as physical, social or cultural improvements), and less tangible benefits of participation and involvement.

2.13.2 Community-Based Natural Resource Management (CBNRM)

Coupled with the growing global recognition for the need for local participation and empowerment in order to address issues of poverty and bring about sustainable forms of development, has been a paradigm shift in conservation and natural

resource management away from costly state-centred control towards approaches in which local people play a much more active role. These reforms aim to increase resource user participation in natural resource management decisions and benefits by restructuring the power relations between central state and communities through the transfer of management authority to local-level organisations (Shackleton *et al*, 2002).

For most of the past century, conservation efforts were focused on high profile species and habitats. Over the decades this view changed to encompass biodiversity and biological processes beyond the realm of protected areas and into the rural areas – one of the main locations of conservation problems. The experiences gained in the management of natural resources the world over have demonstrated that conventional approaches to the conservation of these resources, in particular the enforcement of conservation laws and other attempts to protect individual species, have not had the desired effect in safe-guarding the welfare and continued existence of species (Cassidy and Jansen, 1999).

In the late 1970s there was a shift in conservation thinking, which led to a grass-roots approach to conservation. This approach is based on the concept that rural communities depend for their livelihoods on the sustainable use of natural resources such as soil, water, rangelands, wildlife, etc. This community-based conservation strategy stands in contrast to the existing top-down approach to conservation, and has also focused attention on the people who bear the costs of conservation. This new approach to conservation advocates for a mix of traditional and modern natural resource management practices (Cassidy and Jansen, 1999).

In Southern Africa, the common name for this community-based conservation approach is Community Based Natural Resource Management (CBNRM), which has now evolved into what can be regarded as a full-scale movement. As an attempt to find new solutions to the failure of top-down approaches, CBNRM rests on the recognition that local communities must be given full tenurial rights over the utilisation and benefits of natural resources in order to value them in a sustainable manner. This approach entails community institution building, comprehensive training, enterprise development, policy negotiation, and natural resource management skills, among other forms of assistance (Cassidy and Jansen, 1999).

2.14 Summary and Conclusion

This chapter examined and defined the subject of tourism, and its impact on the development of Third World countries. It considered the concepts of international tourism, mass tourism, alternative and eco-tourism, and their impact on the tourism industry as a whole. The social, economic and environmental costs and benefits of tourism development on Third World countries were analysed. Finally, this chapter reviewed the concept of natural resource management and analysed the impacts of tourism on host destinations natural resource bases, dealt with the concepts of sustainability and outlined community-based and pro-poor approaches to tourism development.

Tourism brings changes to a host society through the altering of the environment within which the community exists – an environment which is both physical and social. What may be concluded is that while tourism is clearly a catalyst for change, the nature of the change is not always predictable, and is often dependent upon the volume, and type of tourist visiting the area, and the level of economic development of the host society. Therefore, the greater the level of control, placed upon the number of tourists visiting a destination, and their permitted environmental and social impacts, the smaller the changes to a host community, resulting from the development of tourism (Ryan, 1991).

The next chapter presents the theoretical framework within which this study is located.

CHAPTER THREE

Theoretical Framework

3.1 Introduction: Theorising Tourism

Tourism has been an important factor in the developed economies since the mid-nineteenth century, if not earlier (Feifer, 1986; Lofgren, 1999). However, the development of analytical approaches, which attempt an explanation of this phenomenon, is a more recent concern. There are a number of reasons for this, including the tendency to view the pursuit of leisure itself and, by implication the analysis of it, as a side issue to the more serious business of industrial production. However, tourism is now a globalised business or industry, and within the social sciences there have also been substantial changes towards viewing consumption, rather than production, as a serious focus as enquiry (Corrigan, 1997).

The first comprehensive attempt to approach tourism from the perspective of the social sciences was provided in 1976 by Dean MacCannell's book, The Tourist. Despite its faults, the book succeeded in opening up tourism to a more generalised and theoretically informed analysis than had previously been the case. The next major development was the publication in 1990 of John Urry's seminal book, The Tourist Gaze, which, as with MacCannell's, has also had a far-reaching impact on the development of a theoretically informed social analysis of tourism. However, the reality of the early twenty-first Century is very different from the Paris of the 1970s and England of the mid-1980s which, respectively, formed the focus of MacCannell and Urry's research. During this period we have moved from paradigms of social analysis that grappled with modernity, to those dealing with postmodernity and more recently, to paradigms that are starting to assess economic, social, cultural, physical and political changes in terms of globalisation (Meethan, 2001).

Tourism is, in essence, part of the process of commodification (or commoditisation) and consumption inherent in modern capitalism. Tourism is hence, best

conceptualised as a global process of commodification and consumption involving flows of people, capital, images and cultures (Appadurai, 1990; Lanfant *et al*, 1995; Clifford, 1997; Frow, 1997). In terms of its economic value and global spread, tourism is growing at an exponential rate. At this macro level, a number of factors, from the growth of multinational corporations to the ways in which nation states attempt to control and regulate the globalising trends of the tourist system for their own purposes, such as using tourism to achieve economic growth and development, need to be analysed (Elliott, 1997). The issue of commodification, the ways in which material culture, people and places become objectified for the purpose of the global market must also be addressed (Meethan, 2001).

For all its global spread, tourism is also associated with the specificity of places, with the processes by which sights are demarcated and set apart from the mundane, becoming in effect the commodities to be sold in the global market place. In this sense, there is also a need to focus on the ways in which the global and systematic properties of the tourist industry are manifest at the micro or local level of daily life. In effect, this means analysing tourism in terms of the relationships and forms of mediation between the macro level of the global tourist system, and the micro level of lived experiences, or more simply, in terms of the interactions and dynamics that exist between the global and local (Meethan, 2001).

Globalisation and development theories will be adopted within this study in trying to develop a framework that encompasses all aspects of the 'international tourism and local resource utilisation relationship'. These theories which deal primarily with the conceptualisation of the structures and mechanisms that underlie existing world-wide economic developmental problems, and the processes that aid and abate regional underdevelopment will be utilised to better understand local transformations resulting from global capitalist processes. As Torres (1996, p. 17) states, "...global acceptance of a common capitalist paradigm has resulted in profound transformations of local economic, social, cultural, political and environmental processes. Rapid and widespread adoption of modern communication and transportation has facilitated a 'time-space compression' (Pred, 1993), significantly enhancing the ability of global forces to reconfigure local realities. The mediation between local and global forces has resulted in a restructuring of the relations of

production and consumption in even the most remote communities – seemingly peripheral to, and detached from, the world economy".

3.2 Creating Tourist Spaces: From Modernity to Globalisation

3.2.1 Conceptualising Modernity

Modernity, as a form of both social order and conceptualising the world, is conventionally dated from the enlightenment period of the late seventeenth century. With the emergence of a capitalist system in the nineteenth century, industrialisation began replacing traditional forms of social organisation and this necessitated new ways of organising labour based on the routinisation of work, rationalisation of production, and a growing bureaucracy (Giddens, 1991; Lyon, 1999). Such developments have been described as a consequence of differentiation; the increasing specialisation of particular functions, which is based on the principle that social relations in modernity were fundamentally different to those of pre-modern times. In pre-modern times, for example, social arrangements, the domestic sphere of family and home constituted the unit of production. In modernity however, work was split from the home and became regulated as wage labour. This regulation in turn was organised around 'clock time' rather than the pre-modern seasonal rhythm of agricultural production (Lyon, 1999). Apart from this splitting of work from the home, a differentiation between home and leisure also began to occur (Meethan, 2001).

With regard to the spatial organisation of modernity, urbanisation was a key development. This enabled factory production to increase economies of scale, additionally providing a focus for political activity through the development of forms of local government, and a source of civic identity through the provision of centralised social and leisure facilities. Urbanisation also led to the development of mass markets whose consumption needs were satisfied through mass factory production. Labour relations also experienced various changes. Factory production was different from that to fulfil the needs of both individuals and families, and labour became regulated through forms of contracts. Access to commodities was regulated through a wage economy. Hence, from a classic Marxist viewpoint, people were

alienated from the means of production and social relations were mediated, in effect disguised, through commodity forms (Craib, 1997; Meethan, 2001).

Modernity is naturally also associated with the concept of progress and change, particularly the notion of a linear path to social development in which the pre-modern is swept aside by the progressive march of modernity which, as Harvey (1989) states, "...has no respect for its own past" (p. 226). The notion that modernity constitutes a fundamental break with the past, not only of organisational forms but also in conceptual terms, creates a distinction between the modern and the traditional.

Another element to be viewed is the nation state. In simplest terms, nation states can be viewed as 'natural' entities, which contain a certain set of essential characteristics shared by its inhabitants that forms a distinct national culture. However, such assessments themselves are products of modernity and tend to be set in sharp contrast to the pre-modern or primitive. In this way both the 'primitive' and the 'traditional' become seen as the antithesis of modernity, and this is a fundamental categorisation that not only underpins many forms of tourism, but also many forms of tourism analysis. Concepts of alienation, the division between the past and the present, the modern and the primitive still influence the manner in which many forms of tourism are considered and analysed. Despite the tendency to think in terms of epochs, such as modernity or postmodernity, as with all broad classifications of history, there is a danger of assuming that, for example, modernity not only consisted of a set of definable characteristics, but more importantly, that the application of these characteristics was both universal and simultaneous. The spread of modernity, or even industrial capitalism, was an uneven process, which in turn has consequences in terms of both globalisation and development (Meethan, 2001).

3.2.2 Tourist Spaces of Modernity

Even though it is possible to see the roots of modern tourism in the Grand Tours of the eighteenth century, it was the creation of the European seaside resorts from the early nineteenth century onwards that established the dominant pattern for mass tourism (Walton, 1983; Walton, 1997; Urry, 1990). The first resorts became 'watering

places' for the rich and fashionable gentry, and with the development of rail travel, as day-trip destinations for the urban working classes. Rises in the real value of wages, and the introduction of statutory holidays which eventually were also paid, resulted in the majority of the urban population in the industrialised countries having both the time and means to take a holiday during the year (Meethan, 2001).

The seaside resorts were clearly demarcated from the world of work both spatially, temporally, as well as in terms of the activities that could be pursued within them. The established pattern that holidays were taken in the summer months, in places which were removed from the world of work, and involved the conspicuous consumption of leisure was therefore inextricably linked to the development of capitalism, and mirrored the social divisions of the time (Meethan, 2001). The development of a specific tourist space can therefore be viewed as a consequence of the differentiation inherent in modernity, of splitting the sphere of work from the sphere of leisure in conceptual, temporal and spatial terms (Meethan, 2001).

3.2.3 Restructuring Space

As previously stated, resort areas developed as a result of modernity, and are linked to the processes of urbanisation and industrialisation, and the creation of both mass markets and mass consumption. As such, they were both literally and symbolically, spatially demarcated from the spaces of manufacturing. However, during the 1970s a downturn in industrial manufacturing across the developed economies and a sectoral shift into the service economy began to occur, and this, together with the globalisation of information technology led to the emergence of new forms of spatial organisation which in turn gave rise to new forms of tourist space (Meethan, 2001).

Harvey (1989; 1993) summarises many of these changes. Firstly, the relative locations of places within the capitalist system became altered, places such as the former manufacturing areas were not as secure within this new system as they were previously. Secondly, reduced transport costs led to both production and marketing becoming more spatially mobile than had previously been the case, so that opportunities for investment were no longer as tied to particular localities. Investors could thus take advantage of differences in resource qualities and costs between places. Thirdly, this increased competition between places for mobile capital to the

extent that the quality of life within a locality, or even the quality of the environment could be as much a determining factor in attracting inward investment as any other consideration. Lastly, patterns of speculative investment shifted into the construction of spaces to serve both the needs of the service sector, through the building of new office space and provision for the rapidly growing leisure and retail sectors (Harvey, 1993). This latter factor was also a result of the deregulation of global financial markets, and the use of information technology (Castells, 1996; Borja *et al*, 1997). Hence, opportunities for investment were now sought on a global and international stage. The speed at which both money and information could be transferred around the globe meant that manufacturing, which was now serving global markets, could take advantage of the lower production costs that were available outside the developed economies. It was, however, not only manufacturing that faced such changes as service industries also began to expand and seek new markets beyond the limitations of national boundaries. The spatial forms of modernity, hence, faced a number of challenges (Daniels, 1993; Meethan, 2001).

One can begin to see how these factors came into play in relation to tourism if the restructuring of the resort areas, the changing nature of the urban area, and the development of new tourist-consumption spaces are examined. Since the 1960s the demand for the traditional seaside holiday in the United Kingdom declined year on year, as a result of growing competition from the Mediterranean resorts (Cooper, 1997). This pattern was also replicated in other European manufacturing regions. In the USA, many of the established resorts, in particular hotel complexes that offered a 'total holiday' also fell into terminal decline (Lofgren, 1999). Consequently, most of the traditional resort areas were forced to face the need to restructure or reinvent themselves (Shaw and Williams, 1994; Ashworth and Dietvorst, 1995; Williams and Shaw, 1997).

These changes were a direct response to changing patterns of consumer preferences. The early pattern of holiday making, which began in the Victorian era as day trips, had been transformed by the mid-twentieth century into the established practice of taking an annual two-week break in the summer months, staying in lodging houses, hotels or camps (Walton, 1983; Lofgren, 1999). However, increasing costs, coupled with the rise in car ownership from the 1960s onwards meant that holiday makers were no longer tied to one location, but were also

becoming more inclined towards 'do-it-yourself' or self-catering holidays. In the USA, the pattern was somewhat different, showing a notable decline in the traditional two-week break, and the growing popularity of more frequent but shorter weekend breaks (Chon and Singh, 1995; Shaw and Williams, 1997).

However, mass tourism, and the domestic tourist spaces of modernity had not disappeared, but rather relocated to the Mediterranean coast, particularly Spain, for the European market, and Latin America and the Caribbean for the North American market (Chant, 1992; Gayle and Goodrich, 1993; Priestly, 1995). Regardless of national or even regional differences, the overall trend showed greater variation in the pattern of holiday consumption. In particular, the increasing popularity of short off-season breaks, and the rise of new urban-based forms of tourism, led to a distinct move away from the mass provision of domestic standard holidays into more fragmented and diversified markets (Meethan, 2001).

In short, within the developed economies the tourist spaces of modernity were under an increasing number of threats. Competition was no longer between resorts within a domestic market, but between home resorts and international destinations. In addition, a further threat was posed by the post-industrial cities and regions developing urban and heritage tourism (Meethan, 2001).

3.2.4 Revitalising Urban Space

The industrial downturn which the manufacturing regions and localities of the developed economies began experiencing from the late 1970s meant that new forms of investment and employment had to be found, and the growing tourism and leisure market began to be viewed as a sector capable of generating economic growth. The need for local and regional economies to diversify, due to the above mentioned reasons, gave rise to the development of new tourist spaces, primarily based on urban heritage attractions (Law, 1993; Judd, 1995; Page, 1995; Meethan, 1996; Judd and Fainstein, 1999). Even though many of the larger cities had always attracted tourists, the biggest obstacles were those of perception and image. As holidays were traditionally taken away from the centres of industrialisation, the divide between work and leisure space created through the differentiation of modernity was as much conceptual and symbolic as it was actual (Meethan, 2001).

The successful creation or invention of these spaces of consumption was also part of a wider series of changes by which urban living was undergoing a process of re-evaluation within all the advanced industrial nations (Smith, 1988; Bagguley *et al*, 1990). From the 1930s onwards, cities within the developed economies became increasingly suburbanised, a trend more apparent in the United Kingdom and Anglophone countries such as Australia, Canada, New Zealand and the USA. The suburbs became the home of the urban middle class and many inner city areas experienced a spiral of decline. However, during the 1970s the mass movement to the suburbs by the middle classes began to undergo a reversal as people started to move back into the inner city areas. This became known as gentrification, a process of the middle class replacing the working class, leading to increasing property values, alteration in the built environment and the emergence of a new urban lifestyle (Savage and Warde, 1993).

This re-evaluation of urban life coincided with the invention and development of heritage and urban conservation movements and the emergence of postmodernism in architecture and design. According to Judd and Fainstein (1999), the significance of such developments for tourism should not be underestimated. Zukin (1995; 1998) for example, notes how gentrification resulted in the development of spaces of urban consumption which are inextricably linked to new patterns of leisure, travel and culture.

The same general pattern is present in urban areas around the globe. What is significant here is the way that the more intangible aesthetic elements of place became commodified for the purposes of economic growth. Heritage and the general quality of the urban environment became added value to attract inward investment (Meethan, 2001).

It is clear that the rediscovery or re-evaluation of urbanisation which began as gentrification has had significant impacts on not only the pattern of life and culture within cities, but also in terms of the opportunities it offers for new forms of tourism. The modernist spaces of mass tourism and consumption are giving way to a more diverse and fragmented situation, and although such developments are clearly linked to the need for economic diversification, one question immediately presents

itself: Are we witnessing a shift from modernist to postmodernist forms of spatial development? (Meethan, 2001).

3.3 Postmodernism

According to Lyon (1999), postmodernism is at the best of times a rather confusing, if not contradictory, term. It can be regarded as an idea, a cultural experience, a social condition or even a combination of all these elements. The term itself presupposes a break with the past, based on the notion that whereas modernity was characterised by differentiation, standardisation and hierarchical notions of taste and judgement, within postmodernism these characteristics are challenged or even inverted. Norms, standards and hierarchies are no longer correct or incorrect, but altered and diverse. Space is no longer governed by a hierarchy of uses and functions in which the sphere of leisure is separated from the sphere of work. This hierarchy has been replaced with a more fragmented and less uniform pattern of spatial differentiation, which in turn has been matched by resultant changes in patterns of consumer preferences, within which diversity, difference and eclecticism appear to be the key elements. Space is now recognised as having the capacity to embody sets of values from which people derive significance and meaning, and changes to the urban form across the industrialised economies are transformations which are as much about the symbolic as they are material and economic processes. Hence, there is an interrelationship between the material and the symbolic, between the urban form and the meanings that are derived from it. This in turn involves the creation of coherent spatial representations or narratives which create or manipulate new patterns of tourism consumption (Meethan, 2001).

It may be tempting to view such changes as conclusive evidence that modernity has run its course and that we have indeed entered a new era of postmodernity. Yet as Meethan (2001) notes, such claims must be treated with caution. Even though one can point to the new patterns of more fragmented leisure consumption linked to new uses of space and the significance of the symbolic realm in creating distinct places, the claims that we have entered a period of postmodernity appear to be somewhat 'over-inflated'. The pattern of tourist consumption established in modernity has far from disappeared. Rather, it has merely shifted its location. As with many forms of

modern production, it has moved away from the developed economies to places or areas that offer some competitive advantage. These may include a milder climate and an environment of sun, as well as perhaps favourable foreign exchange rates and local wage levels attractive to tourism entrepreneurs. Hence, tourism is no different from other forms of commercial activity that seek competitive advantage in response to change. If one is to focus on shifts from one mode of production to another, or from one dominant organising principle to another, an explanation is perhaps to be found not in the endless rhetorical regression of postmodernism but rather in the process referred to as globalisation (Meethan, 2001).

3.4 Globalisation

The earliest use of the words 'globalise' and 'globalisation' dates back to the mid-1950s where the terms emerged in a business context characterised by the growth of international trade (Oxford English Dictionary, 1988). Central to this development was the post-Second World War rise of trans-border investment that culminated in the emergence of readily relocatable 'quicksilver capital' and the growth of the multinational corporation (Pitelis and Sugden, 1991). In the context of these developments, globalisation has therefore come to refer to the internationally co-ordinated command and control of the production and dissemination of commodities, capital and infrastructure (Eisner and Lang, 1991; Barnet and Cavanagh, 1994; Barber, 1996).

Globalisation, however, does not just mean the extension of trade and other economic links to all parts of the globe. It also refers to the reorganisation of activities by the large multinational corporations, on a world-wide basis, without any real home base or special concerns for a home country. Such firms have a hierarchical organisation with bases at various levels in numerous countries. They are often vertically structured, with suppliers of materials and power sources, manufacturers, and assemblers for final markets, all forming part of the main enterprise. As a result of this, they occupy major urban centres around the world and bring large revenues to these centres through their high-paid executives and through the growth of business services such as accountants, financial services and lawyers to handle their regional problems (Morris, 1998).

There is, however, an ongoing debate over the desirability of this process of globalisation. Some regard it as the harbinger of a new commodity capitalism that facilitates an allegedly generalisable high material standard of living, while others view it as a process of sociocultural standardisation that benefits the already privileged while destroying local cultural variation and alternative ways of life (Eisner and Lang, 1991; Barnet and Cavanagh, 1994; Barber, 1996). Others also tend to question this 'naturalising' of globalisation. This viewpoint regards international economic integration occurring on unequal terms of exchange that favour the former colonial powers at the expense of the ex-colonial world. Therefore, globalisation becomes a means to legitimise neo-colonial practices that leave ex-colonial societies penetrable to large financial and international aid institutions (Marcos, 1995; McMichael, 1996).

3.4.1 Globalisation and Tourism

One of the most noted characteristics of tourism is that its worldwide growth is increasing at an exponential rate, and as Held *et al* (1999) note, "...it is one of the most obvious forms of globalisation" (p. 360). According to Amin and Thrift (1994), there is no single, all encompassing, definition of globalisation, rather a set of concerns which involve the disintegration of the nation state, the rise of transnational corporations, and the growth of new technologies and electronic broadcast media. Globalisation is characterised by increasing economic, social and cultural interconnections, that exist across national boundaries, and which are increasingly impacting upon the daily lives of people around the world (Meethan, 2001).

According to Ugarteche (2000), globalisation can be defined as "...growth in an economic activity that transcends national and regional boundaries" (p. 75). It is the "...intensification of world-wide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and visa versa" (Giddens, 1990, p. 59). It is evident in the increasing movement of goods and services through trade and investment – and of human beings – across international borders, as well as in the exchange of information in real time. It is driven by individual economic players in search of greater profits under pressure from competition (Ugarteche, 2000).

As previously discussed, the process of modernisation was one of differentiation, organised largely within the boundaries of the nation state. This, however, is no longer the case. The capacity for capital to move from one area of the world to another, almost instantaneously, alters the ways in which economic relations are both conceptualised and consequently organised. It is this compression of space and time, which leads Scott (1997) to argue that globalisation needs to be distinguished from both modernisation and colonialism. Globalisation is therefore not merely the sum of international or transnational connections between places, but rather implies a different order of relationships structured across space and time (Meethan, 2001).

Hence, since the late 1970s, there have been substantial changes to what one might term the 'global system' and the resultant restructuring of space. With reference to tourism, these global flows of information, capital, people and cultures are realised in specific socio-spatial forms as the development of new networks of places, and the emergence of new spaces of consumption (Meethan, 2001). These are significant in two ways. Firstly, the internationalisation of businesses such as airlines, hotel chains, and tour operators that have facilitated the growth in long-haul and overseas tourism (Daniels, 1993). Secondly, the effect of new technologies in facilitating both the movement of capital and people such as the establishment of airline and hotel-booking reservation systems (Poon, 1993).

There is little doubt that globalisation is having profound impacts on policies, economics, cultures and tourism. Due to its magnitude as an industry, tourism provides a unique vantage point for exploring, arguably the most transformative process in the world today, globalisation. As a mode of travel, interaction, visualisation and experience, tourism is not only increasingly reaching formerly isolated parts of the world, but is also reshaping local identity and traditional social structures. As new forms of tourism become increasingly prominent, such as eco- and heritage tourism, it has become an integral part of all societies, eliciting active and complex responses (Wood, 1998). Some see the growth of tourism, and the resultant globalisation, as an opportunity for less developed countries to carve out a niche in the global market. This is possible since globalisation provides a means of internationally promoting their many, and varied, tourism assets. These include year

round sunshine, magnificent beaches and lakes, pristine natural sites and wildlife populations, and rich cultural heritages (Meethan, 2001).

The spread of tourism and the rise in globalisation have also been subjected to heavy criticism. It is argued that the tourism industry creates dependency for the host countries on a fickle and fluctuating global economy beyond their local control. Local economic activities and resources are used less for the development of communities and increasingly for export and the enjoyment of others. Very few international policies and guidelines exist which restrict and control tourism and hence it has developed throughout the world (Ugarteche, 2000).

According to the Balik Kalikasan Editorial (2000), globalisation leads to homogeneity, which is the single greatest threat to sustainability. They view the continued growth of globalisation as eventually leading to the development of a situation where food, names and products will be the same the world over, defeating the very purpose of tourism.

3.4.2 Global Culture

The historical development of capitalist economies has always had significant implications for cultures, identities, and ways of life. The globalisation of economic activity is now associated with an additional wave of cultural transformation, with a process of cultural globalisation. At one level this is about the manufacture of universal cultural products, a process which has been developing for a long time, and in the new cultural industries there is a belief in 'world cultural convergence'. This is a belief in the convergence of lifestyle, culture, and behaviour among consumer segments across the world (Robins, 1991).

As in the wider economy, global standardisation in the cultural industries reflects the drive to achieve ever greater economies of scale. More specifically, it is about achieving both scale and scope economies by targeting the shared habits and tastes of particular market segments at the global level, rather than by marketing on the basis of geographical proximity to different national audiences. The global cultural industries are increasingly driven to recover their escalating costs over the widest market base, over pan-regional and world markets (Robins, 1991).

The origination of world-standardised cultural products is but one key aspect, as the process of globalisation is far more complex and diverse. In reality it is not possible to eradicate or transcend difference as, in fact, the resourceful global conglomerate exploits local difference and particularity. Cultural products are assembled from the world over and converted into commodities for a new 'cosmopolitan' market place hungry for world music; ethnic arts, fashion and cuisine; Third World writing and cinema. The local and 'exotic' are both spatially and temporally 'removed' to be repackaged for the 'world bazaar'. However, even though this so-called world-culture may reflect a new valuation of difference and particularity, it is also very much profit-driven (Robins, 1991). According to Levitt (1991), the global growth of ethnic markets is an example of the global standardisation of segments: '(E)verywhere there is Chinese food, pitta bread, country and western music, pizza and jazz. The global pervasiveness of ethnic forms represents the cosmopolitan of speciality. Again, globalisation does not mean the end of segments. It means, instead, their expansion to worldwide proportions' (p. 30).

Hence, one of the greatest paradoxes of globalisation is the way that it appears to be pulling in two directions at once: On the one hand, towards the creation of a global system of deregulated neo-liberal economics, while on the other hand, towards forms of cultural fragmentation or de-differentiation leading to the assertion of nations, regions and locales as foci of identity in a seemingly rootless global world. In other words, a series of tensions exist between the dominant form of global spatial practice, representations of space defined at a national level and the representational spaces of localities and lived experiences (Friedman, 1999; Kong, 1999).

A further example of this 'paradox of globalisation' is present within the tourism industry itself. According to Meethan (2001), the recent patterns and types of tourism development differ in significant ways, and although it is possible to identify global trends or a dominant paradigm of spatial practices, these patterns are, paradoxically, those of diversification and fragmentation. Hence, what distinguishes the more recent forms of tourism growth from past developments, driven by notions of modernisation, is the fact that it is difference, rather than similarity, which is striven for, and tourism arguably encourages the commodification of uniqueness. In this sense, one can point here to the interrelationship between the material and the

symbolic in the ways that the local or the small-scale is conceptualised as a counterweight to the seemingly 'monolithic' tendencies of the global market (Meethan, 2001).

Hence, there is little doubt that globalisation, in regard to the increasing interconnections between places, is having profound impacts in terms of politics, the economy, culture and, of course, tourism. Yet one must also be wary of viewing it as a singular condition that has uniform effects. It is therefore perhaps best to view globalisation as changing the context in which old certainties are being re-forged, not as a singular process but as a combination of different influences. In turn this can be regarded as a form of de-territorialisation in which boundaries, both physical and conceptual, are less fixed than they have been, and the global flows of capitalism go hand-in-hand with the global flows of both people and cultures (Meethan, 2001).

3.5 Tourism as a Development Strategy

The restructuring of global space is partly the result of changes to the pattern of economic growth and investment which is now played out on a global scale. Spatial practices are no longer limited to within the boundaries of nation states, and tourism is no exception (Meethan, 2001). It was during the 1960s that tourism as an actual form of development first appeared on the global stage (de Kadt, 1979). This initially involved a shift from the developed economies into the less developed countries in Latin America and the Caribbean, as well as the more economically peripheral European economies such as Greece and Spain, and during the last two decades, Africa (Pearce, 1989; Leontidou, 1990; Chant, 1992; Gayle and Goodrich, 1993).

In the first stages of its global spread, tourism, as with many other forms of economic development, may have appeared as a path to modernity for many of the less developed countries. For example, during the 1960s many of the newly independent former colonial states implemented programmes of industrialisation and infrastructure development programmes of modernisation designed to equip them with the relevant means of ensuring their economic as well as political freedom (Meethan, 2001). Unlike other forms of development, tourism has one major

attraction to less developed economies. It is an industry 'without chimneys' which requires relatively low capital input (Harrison, 1994). Additionally, tourism is a means of earning foreign currency and hence, it may be considered an 'invisible' export earner and a relatively low-cost means of balancing payments, and in some cases, receipts earned from overseas tourism can be considerable (Harrison, 1997; Archer and Cooper, 1998; Meethan, 2001).

As with other forms of modernity or modernisation, mass tourism was, at least initially, the accepted model. However, the tourism spaces created are of a different kind to those in the advanced capitalist economies in a number of ways. Firstly, they did not cater for internal domestic markets, at least in their initial development phases. Secondly, the majority of resort developments were built as enclaves. Even though this may be seen as the replication of resort developments in the industrialised economies as they too were kept spatially and socially distinct, spatial segregation could also act to highlight both social and economic differences between the host population and the guests. In some instances though, such separation could be deliberately planned to limit outside influences on the host population (Pearce, 1989; Meethan, 2001).

Modernisation assumes that development occurs on a linear or evolutionary basis, and that given the right conditions, less developed societies can 'catch up' with the developed world and this should be encouraged through strategic development organised at a state level. In regards to tourism, this form of development assumes, for example, that the building of large hotels or resort areas will act as a catalyst to promote some form of 'trickle down' effect, which will be of benefit to the overall economy. Additionally, the development of modern infrastructure, such as airports, roads, etc., will also benefit the economy as a whole. There are obviously certain problems in this scenario. Firstly, there is the possibility that any profits accrued will leak from the national economy overseas. Secondly, economic developments may only benefit existing national or more localised elite. In both cases the economic relationship will be uneven, if not exploitative, and the indigenous economy may suffer as a result of catering to the needs of the developed world (Meethan, 2001).

Hence, such an approach assumes that the spread of modernity in itself is both desirable and achievable, and in turn, traditional values and cultures could be

viewed as contrary to progress (Wood, 1993). As such, development is therefore considered to be the spread of a system of universal values, or rather, of providing the underdeveloped nations and regions with the means by which universal goals of economic growth and prosperity can be achieved (Meethan, 2001).

3.6 Theories of Development

According to both the modern pioneers of development economics, such as Rosenstein-Rodan, Chenery, Hirshman and Lewis, as well as the neoclassical development theorists, such as Bhagwati and Krueger, economic development is a growth process that requires the systematic reallocation of factors of production from a low-productivity, traditional technology, decreasing returns, mostly primary sector to a high productivity, modern, increasing returns, mostly industrial sector. However, while neoclassical development economists assume that there are few technological and institutional impediments to the required resource-reallocation, the modern development pioneers assume that the resource reallocation process is impeded by rigidities, which are both technological and institutional in nature. Investment lumpiness, inadequate infrastructure, imperfect foresight, and incomplete and missing markets hamper smooth resource transfer among sectors (Adelman and Morris, 2001).

Modern development theorists emphasised that long-term economic growth is a highly non-linear process. This process is characterised by the existence of multiple stable equilibria, such as a low-income-level trap. Developing countries are caught in the low-income-level trap which occurs at low levels of physical capital, both productive and infrastructural, and is maintained by low levels of accumulation and by uncontrolled population growth. Industrial production experiences technical indivisibilities, which result in technological and monetary externalities. However, coordination failures lead to systematically lower rates of return from investments based on individual profit maximisation than from those that could be realised with co-ordinated, simultaneous investment programmes. Uncoordinated investments do not allow for the realisation of the inherent increasing returns of scale and, together with low incomes, which restrict levels of savings and aggregate demand, ensnare an economy starting at low levels of income and capital in a low-income-level trap.

Hence, the government must take action to propel the economy from the uncoordinated, low-income, no-long-run-growth static equilibrium to the co-ordinated, high-income, dynamic equilibrium, 'golden-growth' path (Adelman and Morris, 2001).

Neoclassical development theorists hold the view that internal trade can provide a substitute for low aggregate demand. They state that the only things governments need do to position an economy on an autonomous, sustained-growth path is to remove barriers to international trade in commodities. Hence, in this view, domestic and international liberalisation programmes suffice to bring about sustained economic growth and structural change (Adelman and Morris, 2001).

3.6.1 Development Theories and Tourism

Different paradigms or styles of development can be applied to tourism and common strands within the various paradigms and theories can be used to describe and explain the evolution of tourism and provide pointers towards potential new directions (France, 1997).

The classic approach to development, which is top-down, state instigated and expert-led, generally involves a three stage process where problems and opportunities are identified by external agents; technical measures are developed and selected by the state, with the co-operation of the community; and plans are implemented through a mixture of encouragement and coercion (Blaikie, 1996). Resultant failures tend to be partly technical, due to inadequate research; partly a result of a lack of fit between techniques adopted and local lifestyles; and partly due to the inadequacies of state bureaucracies (Blaikie, 1996). Aspects of modernisation theory and underdevelopment theory, as applied to tourism show some similarities with these concepts. The top-down, expert-led approach is apparent in the control exerted by multinational companies, with their external capital, expertise, technology and ideas. Generally operating in a neo-colonial role, they either disregard local tradition and culture (underdevelopment theory) or view it as being antithetical (modernisation theory), which is one of the failures clearly identified in relation to the classic approach to tourism. The entrepreneurial role of elites and the lack of planning control over large-scale package tourism that is generally aimed at

foreigners reflects the inadequacy of the state, which rarely has the desire or the ability to limit development without loosing what are perceived as valuable jobs and revenue (France, 1997).

The neo-liberal paradigm is concerned with market forces. It typifies the mass tourism industry in which multinational companies based in the developed nations shape and direct the developed world demand, regardless of whether the destinations are in the developed or less developed areas or nations. Even though the profit margins per tourist may be small, the total financial returns to these companies are generally large. Other related characteristics include the limited or negligible role both of local lifestyles and the majority of local people involved in low-income, low-status occupations. These realities are often hidden behind glossy advertising which highlights distinctive traditions and customs as attractions for tourists. The much vaunted jobs and revenue are just as deceptive. The former are frequently considered by Western academics, and even by the tourists themselves, as low-income and low-status. This, however, may not be the attitude of many of those employed in such jobs within relatively poor destination countries, where alternatives may be even less financially rewarding, less secure and more distasteful. A significant amount of the revenue fails to accrue to local people as it is leaked out of the local, regional and national economy (France, 1997).

There are several convergent ideas within neo-populist development, with its focus on a bottom-up approach involving local people from the beginning. Some of these can be traced to sustainable forms of development and related to tourism. Alternative approaches that stem from grass-roots development, including certain types of ecotourism and community-based tourism, such as the Campfire project in Zimbabwe and the Casamance scheme in Senegal, show more suitable characteristics than does mass package tourism. These examples also illustrate the desire to generate small-scale enterprises, such as the increasing use of local agricultural produce in islands like St Lucia and Barbados in the Caribbean. Movements to return to traditional values and skills can result in cultural and craft revivals that can act as important tourist attractions, as well as increase local pride and self-confidence and boost the local economy. It is not just through cultural events like carnivals and local craft production that participation in tourism can emerge, but also through agricultural diversification that important linkages may

develop with other sectors of the economy. Over time education, training and government support can uplift local people into managerial roles within the tourism industry and as knowledge and experience are diffused, so their role in decision making, and hence in more active participation, increases. This can then be extended to include a degree of empowerment. However, the multinational nature of tourism makes it an activity within which the full empowerment of local people is less likely to occur. It is perhaps more suitable to envisage a spectrum, from neo-colonial paternalism to empowerment, along which attempts should be made to move away from the extreme aspects of paternalism towards empowerment (France, 1997).

3.7 Summary and Conclusion

This chapter presented a broad overview of the various theoretical approaches to understand tourism and development. It highlighted the transformation of tourist spaces, from modernity to globalisation, and resultant socio-economic changes. The growth of multi-national corporations and disintegration of the nation state, the use of tourism to achieve economic growth and issues of commodification were also analysed. Finally, the structures and mechanisms which underlie existing world-wide economic development problems and the processes that aid and abate regional underdevelopment were also considered, to better understand the local transformations resulting from global capitalist processes.

Despite all intentions at bringing about economic growth and development in rural areas, rural poverty persists throughout southern Africa, and hence there is an increasing need for new perspectives on development processes and socio-economic changes in rural areas.

So far, the dominant theories of 'development' have been produced by First World theorists (Truman, Rostow, Perroux) or from within international organisations such as the United Nations and the World Bank. Third World contributions have been limited to the 'dependency school' and the Tanzanian attempt to define and practice 'self-reliant' development, which have brought about little improvement. However, if Third World governments were free to apply policies based upon their own cultures and history, and if Third World intellectuals had time to formulate proposals outside

the mould of the international organisations, would the results not be different? (Rist, 1999).

One of the most distinguishing characteristics of development theory is the viewpoint that development or growth is able to continue indefinitely, an idea that distinguishes First World intellectuals from all others (Rist, 1999). Development, including tourism-based development, must not be viewed in isolation from the broad concept of the 'environment' as there is a need to reconsider the relationship between environment and development. As such, in using tourism as a development strategy it is essential to consider issues of human and societal interaction with their environment; challenge existing development ideologies and theories, and to view the concept of growth both from a cultural and historical context in attempting to create sustainable development options (White, 1993).

The next chapter highlights the methods undertaken in this study, and presents the conceptual framework and study design.

CHAPTER FOUR

Methodology

4.1 Introduction

While tourism has been an element of human activity systems virtually since trade began, it is only since the second half of the twentieth century that this activity has become a prominent part of the global economy and lifestyles. Tourism has therefore only relatively recently emerged as a distinct research focus and tourism researchers have used the foundations provided by a range of established social science disciplines to build what has essentially become a multidisciplinary field of study (Graburn and Jafari, 1991; Gunn, 1994, cited in Faulkner, 2001). This aspect of tourism research may also be a reflection of the growing understanding that the multifaceted and complex nature of most social science phenomena requires such an approach (Faulkner and Goeldner, 1998). Whatever the reasons for the multidisciplinary nature of tourism research, it does mean that there is now a range of available perspectives at our disposal to research tourism phenomena (Faulkner, 2001).

However, the contemporary period of social scientific research is perhaps best characterised by increasing doubt that "...any discourse has a privileged place, and any method or theory a universal and general claim to authoritative knowledge" (Richardson *et al*, 1991, cited in Ivey, 1997, p. 251). An essential consequence of this is that research questions posed are not dictated by established research practices. Rather, research methods are created or adapted to meet the demands of the research questions (Ivey, 1997).

The broad research objective of this dissertation is to investigate the role that tourism plays in the utilisation and management of the natural resources in the Okavango Delta in northern Botswana, thereby requiring a form of both qualitative

and quantitative methodology, as it involves the study of human interaction with the geographical environment, and hence is not numeric or consistent.

4.2 Aims

The aims of this study are as follows:

1. To analyse the factors which determine the impact of tourism on the management and utilisation of the Okavango Delta's natural resources.

2. To investigate the relationship between the development of rural tourism in the Okavango Delta and the utilisation and management of the area's natural resources.

3. To assess the relationship between the development of rural tourism and environmental, social, economic and demographic changes in the Okavango Delta region.

4. To identify viable alternatives for creating and strengthening positive linkages between tourism and the sustainable management and utilisation of natural resources in the Okavango Delta.

4.3 Hypotheses

The following hypotheses are advanced in this study:

1. There is a meaningful relationship between the development of rural tourism and the management and utilisation of natural resources in the Okavango Delta. It is hypothesised, further, that the tourism industry is one of the key factors dictating the manner and degree to which the Okavango Delta's natural resources are utilised and managed.

2. There is a relationship between the development of rural tourism and socio-economic and demographic changes in the Okavango Delta. It is

hypothesised, further, that tourism is a significant driving force behind rural restructuring, changes in land use, resource use, rural income, trade, consumption patterns, population demographics, employment, production patterns and infrastructure development in the Okavango Delta.

3. The growth of tourism in the Okavango Delta has impacted upon the degree to which local populations have maintained control over the area's natural resources.

4. Tourism in the Okavango Delta has a significant, physical impact (positive or negative) on the area's resources of wildlife, water and natural vegetation.

4.4 Research Design

Research design can be referred to as "...a flexible set of guidelines that connects theoretical paradigms to strategies of inquiry and methods for collecting empirical material" (Denzin and Lincoln, 1994, p. 14, cited in Ivey, 1997). To test the hypotheses generated in this study, a cross-sectional research design was adapted to explore the interrelationships between tourism development and the utilisation and management of natural resources in the Okavango Delta. The first part of the study consists of a preparatory theoretical section dealing with existing research and theories on rural tourism and natural resource management and use. It examines existing forms of natural resource utilisation and management, the role of tourism in natural resource use and management, and tourism's impacts upon host areas and societies. The second part of the study consists of an in-depth examination of tourism, natural resource management and utilisation, socio-economic factors and demographic changes in the Okavango Delta region. The final section of the study presents an assessment of acquired data.

4.5 Research Approach: An Inter-Disciplinary/Multi-Method Approach

The study of tourism and its associated impacts have been incorporated into many social sciences: economics, geography, ecology, sociology, politics, etc. However, each discipline tends to approach the study of tourism in isolation of research in other disciplines (Manik, 2005). According to Cooper *et al* (1998) however, the study of tourism is diverse and extensive and hence, cannot be understood from a singular perspective. It is in light of the above that this study attempts to adopt a multidisciplinary approach to tourism impacts and natural resource management in the Okavango Delta.

As the study seeks to address both the environmental and socio-economic impacts of tourism in the Okavango Delta, a multi-modal approach was also adopted. The critical questions of the study dictated that multiple methodologies be used. The choice in the design also depended on previous studies undertaken in the fields of tourism and natural resource management. Such studies have been across a spectrum of disciplines, including geography (Torres, 1996), economics (Buhalis and Fletcher, 1992; Clement and Kartik, 1998), sociology (Graburn and Jafari, 1991), politics (Hall, 1994), ecology (Sindiyo and Pertet, 1984; Hunter and Green, 1995), and anthropology (Liu and Sheldon, 1987). Each discipline has favoured a specific method/s depending on the focus of the study. As such, even though methods derived from other research projects were useful, it was necessary to develop a methodology that was unique to the aim of this study.

4.6 Research Setting

In order to test the hypotheses generated in this study, the use of both qualitative and quantitative research methods were required. The evaluation and applied research literature supports the combined use of qualitative and quantitative methods to achieve the most accurate results, as the use of both research methods permits methodological triangulation which is widely accepted as an important means by which to strengthen and enhance study design (Patton, 1990; Posavac and Carey, 1992; Torres, 1996; Dann and Phillips, 2001; Tribe, 2004).

Qualitative research within the field of tourism involves qualities of human behaviour. This is because qualitative methodologies are humanisitically or behaviourally orientated, and attempt to portray reality from the ever-changing world of the subject (Ferriera, 1988). Geography tends to require both quantitative and qualitative research techniques in that it involves the study of human interaction with the geographical environment, and hence is not numeric or consistent.

There are substantial methodological problems encountered in undertaking research on tourism. These problems lie in the multiplicity of potential frameworks available for research analysis. A lack of clearly articulated or agreed upon methodological approaches to tourism studies can create an intellectual and perceptual 'minefield' for researchers, particularly as the value position of the research will have enormous bearing on the results of any research (Hall, 1994; Tribe, 2004).

Hence, in order to comprehend the social processes at work within the tourism-natural resources relationship, it is essential to consider the research within the theoretical frameworks available for data analysis and theory building (Sadler, 1993). The theoretical framework section of this study (chapter three) explores the theories which will be considered in the analysis of data and development of social, economic and environmental conclusions.

The quantitative component of the study employed two research methods: the collection of secondary data, in the form of available data research, and survey questionnaires. Secondary data collection, or available data research, concentrated on the compilation and analysis of existing statistical data from a wide range of sources, which was used to establish long-term patterns and trends in the tourism, resource management and related infrastructure sectors.

Available data research methods employ the use of existing statistical and other data collected by an additional party that was not fully analysed and exploited by the original data collectors due to differing fields of study (Veal, 1997). The use of available data tends to be undertaken extensively by social scientists in that, due to the costs and time required to conduct original field studies, many scientists view the use of available data as a means to economise on such costs, time and manpower (Hall, 1994).

Secondary data document sources used in this study include:
Documents obtained from the Central Statistics Office (CSO) in Gaborone; the Kalahari Conservation Society (KCS) in Gaborone and Maun; The Department of Wildlife and National Parks (DWNP) in Gaborone and Maun; the Ministry of Agriculture in Gaborone and Maun; The World Conservation Union (IUCN); the Ministry of Finance and Development Planning in Gaborone; the University of Botswana in Gaborone; the Harry Oppenheimer Okavango Research Centre (HOORC) in Maun, and non personnel documents. This study also made particular use of the research conducted by Joseph Mbaiwa in 1999 and 2002, at the Harry Oppenheimer Okavango Research Centre (HOORC) in Maun, on the prospects for sustainable wildlife management in the Ngamiland District, and the socio-economic conditions in the Okavango Delta region.

The qualitative component of the study made use of in-depth interviews incorporating a wide range of structures and human agents. According to Dann *et al*, (1988, cited in Dann and Phillips, 2001, p. 253), "...research is only successful to the extent that it blends methodological sophistication with theoretical awareness". Hence, perhaps the greatest advantage of qualitative research methods is that they are exceptionally useful in theory construction, for exploring relationships and concepts rather than verifying existing hypotheses and in filling gaps in theory (Dooley, 1984; Laws, 1998). While quantitative techniques are more aimed at producing 'one-off snapshots' of attitudes and activities within a determined period, or even on a particular day, qualitative measures are more processually oriented, quiet appropriate for many longitudinal studies which require a focus on development over time.

Since many qualitative methods attempt to capture the temporal dimensions (and are therefore subject to the additional requirement of time sampling), it also follows that they can accumulate a greater depth of data than that generally acquired via quantitative techniques based solely on sampling through space. Hence, a simple 'yes' or 'no' answer obtained from the latter can be enhanced by a greater sense or elaboration and distinction through the concurrent use of qualitative methods designed to trace evolution in thought (Dann and Phillips, 2001).

4.7 Sample

In order to test the hypotheses generated in this study both purposive or judgmental non-probability sampling, in the form of in-depth interviews, and random sampling methods, in the form of structure questionnaires, were used to obtain necessary data. In-depth interviews were conducted with representatives from government institutions responsible for the management and control of natural resources, and key academic and private sector personnel involved in tourism and natural resource sectors (Table 4.1). Surveys in the form of structured questionnaires were conducted with tourists staying in the Okavango Delta region, the managers of tourist accommodation facilities in the Okavango Delta region and local inhabitants living in some of the larger towns and villages in the Delta.

4.8 Preparatory Theoretical Phase

A comprehensive critical review of existing academic literature on the subject of tourism, tourism and its economic, social and environmental impacts and existing forms of natural resource management and utilisation was conducted (chapter two). Important issues that were omitted or inadequately researched were identified as potential research questions. This process aided in the formation of interview questions that would provide a comprehensive understanding of the role that tourism plays in the management and utilisation of natural resources.

4.8.1 In-depth Interview Methodology

Interviewee details (Table 4.1) and information regarding the interview itself were collected for each interview. A list of relevant questions to be asked during each interview was prepared, but used only as a guide, due to the informal nature of the interviews. The prepared questions were often answered during the course of the discussion with the interviewee. Interviews were recorded as hand-written notes.

Table 4.1: In-Depth Interview List

Name	Position	Place	Date of Interview or Consultation	Contact Details
Mr Joseph Mbaiwa	Research Fellow: Tourism	Harry Oppenheimer Okavango Research Centre (HOORC), Maun	18/12/2002	E-mail: JMbaiwa@orc.ub.bw; Tel: 09267 686 1833; Address: P/Bag 285, Maun, Botswana
Mr Cato Mosephele	Research Fellow: Fisheries Biologist	Harry Oppenheimer Okavango Research Centre (HOORC), Maun	25/08/2004	E-mail:KMosepele@orc.ub.bw; Tel: 09267 686 1833; Address: P/Bag 285, Maun, Botswana
Dr Debbie Gibson	Senior Technical Advisor	Department of Wildlife and National Parks (DWNP), Maun	24/08/2004	E-mail: dg.darudec@dynabyte.bw; Tel/Fax: 09267 680 0856; Address: P/Bag 79, Maun, Botswana
Ms Portia Kelefilwe Segomelo	Executive Secretary of the Republic of Botswana Okavango Delta Management Plan, under the Ministry of Environment, Wildlife and Tourism	Maun	24/08/2004	Tel: 09267 686 4363/0292; Address: P.O. Box 35, Maun, Botswana
Dr Bruce Hargraves	Botanist/Principal Curator of the Natural History Museam and National Herbarium of Botswana	Gaborone	3/9/2004	Tel: 09267 397 3860; Address: P/Ba 00114, Gaborone, Botswana
Mr Lovemore Sola	Biodiversity Corridor Manager	Conservation International (CI) - Botswana, Maun	25/08/2004	E-mail: l.sola@conservation.org; Tel: 09267 686 0017; Address: P/Bag 132, Maun, Botswana
Ms Itweleng Morewabone	Wildlife Warden	Department of Wildlife and National Parks (DWNP), Maun	24/08/2004	Tel: 09267 686 0275; Address: P.O. Box 11, Maun, Botswana
Mr Kenosi Nkape	Wildlife Biologist	Harry Oppenheimer Okavango Research Centre (HOORC), Maun	16/12/2002	E-mail: KNkape@orc.ub.bw; Tel: 09267 686 1833; Address: P/Bag 285, Maun, Botswana
Ms Patricia Chilume	Principal Tourism Officer	Department of Tourism, Maun	15/08/2003	Tel: 09267 686 0492; Address: P.O. Box 439, Maun, Botswana
Ms Mompoloki Sechele	Wildlife Biologist	Department of Wildlife and National Parks (DWNP), Maun	25/08/2004	Tel: 09267 686 0368; Address: P.O. Box 11, Maun, Botswana
Mr Guy Thompson	Owner/Manager of Guma Fishing Lodge	Etsha 13 area, Upper Western Delta	11/8/2003	Tel: 09267 686 0351; Address: P.O. Box 66, Maun, Botswana
Mrs Eileen Drotsky	Owner/Manager of Drotsky's Cabins (Lodge)	Shakawe area, Panhandle	30/08/2004	Tel: 09267 687 5035; Address: P.O. Box 115, Shakawe, Botswana
Mr M. Mashotja; Mr. T. Madipa; and Mr Letileng Mmika	Agricultural Research Officers (dealing with bushfires in the Okavango Delta)	Department of Agricultural Research, Maun	26/08/2004	Tel: 09267 686 0327; Address: P.O. Box 151, Maun, Botswana

4.8.2 Structured Questionnaire Methodology

4.8.2.1 Tourist Survey

The study's tourist survey was designed to determine tourist demand for the utilisation of natural resources in the Okavango Delta and enable the development of a tourist typology for the region. The tourist survey was conducted simultaneously with the tourist accommodation and local inhabitant surveys over three, two month periods (April/May 2003; November/December 2003; August/September 2004), which included both high and low season months for domestic and international tourism in the Okavango Delta. A map depicting the Okavango Delta region was used to locate the major tourist areas of Maun, Shakawe, Moremi Game Reserve, Etsa 6, Etsa 13 and Seronga. The survey targeted both domestic (Botswana) and other African tourists as well as international overseas tourists.

A total of 400 structured questionnaires in self-addressed, stamped envelopes were randomly distributed to tourists in hotels, lodges and safari camps in the major tourist areas in the Delta region. A total of 224 mailed responses were received, allowing for a 56 percent response rate. One English language form (Appendix Two) was prepared, tested and revised as necessary. However, language constraints did, on occasion, lead to certain foreign overseas tourists being omitted. This is believed to have introduced only slight bias as the non-English speaking group represents only a minimal percentage of the Delta's tourists. The majority of both domestic and international tourists who visit this region can speak English.

4.8.2.2 Tourist Accommodation Survey

The Okavango Delta contains a total of 17 lodges, 2 hotels and 66 safari camps (a total of 85 tourist accommodation facilities) in the region. Structured questionnaires in self-addressed, stamped envelopes were distributed to the managers of 2 hotels, 16 lodges and 52 safari camps (a total of 70 tourist accommodation facilities) in the Delta. A total of 2 mailed responses were received from the managers of the 2 hotels, 14 from the managers of the 16 lodges, and 47 from the managers of the 52 safari camps (a total of 63 responses) (Appendix Three), allowing for a 100, 87, and 90 percent response rate respectively. Therefore, overall, 74 percent of the 85

tourist accommodation facilities in the Okavango Delta were considered in this study.

Tourist accommodation surveys were conducted over three, two month periods (April/May 2003; November/December 2003; August/September 2004). This was done to include both international and domestic high and low season months. The survey form (Appendix Four) consisted primarily of closed-ended questions, regarding the utilisation of natural resources by tourists accommodation facilities in the Delta, to facilitate data entry and statistical analysis.

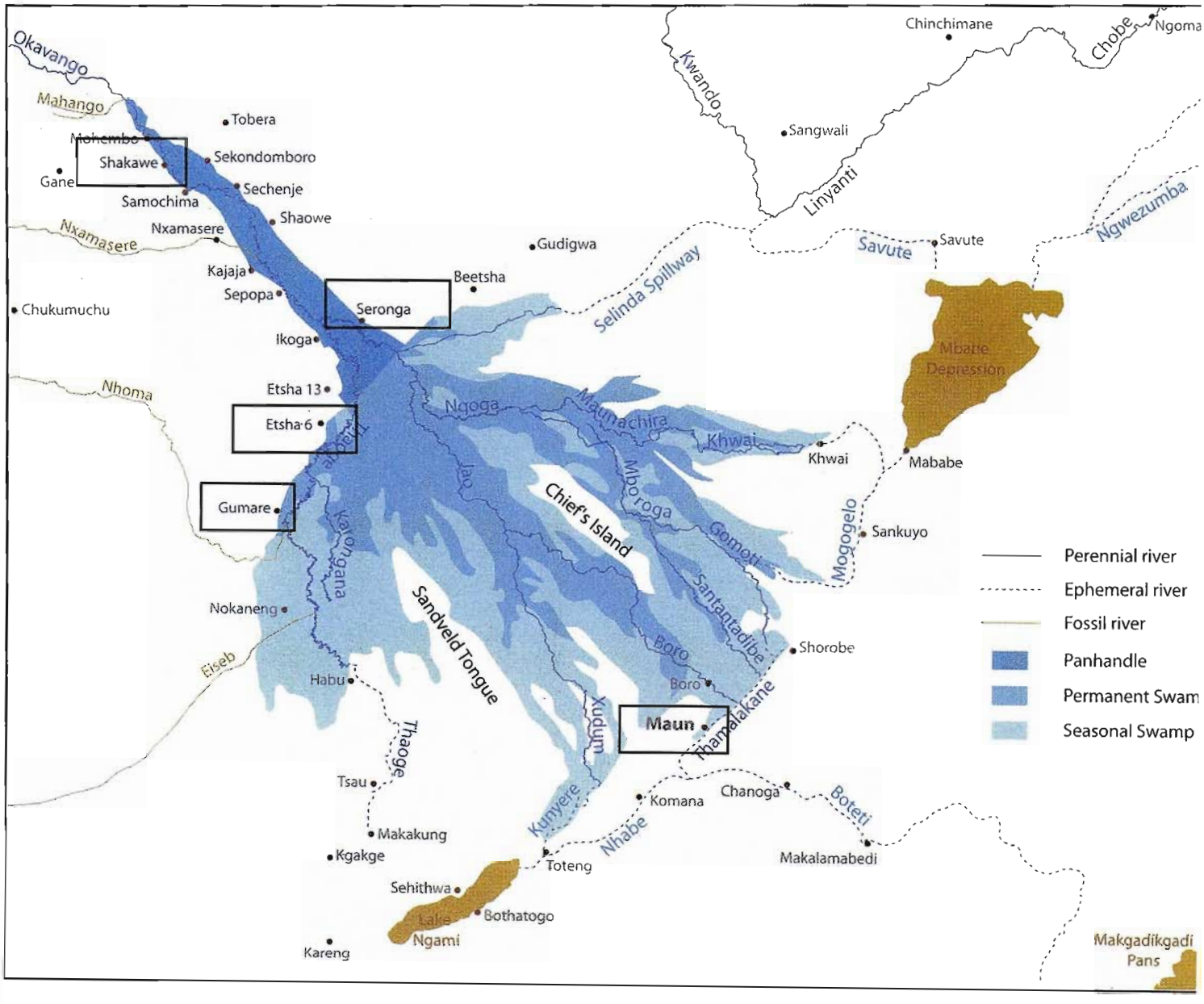
4.8.2.3 Local Inhabitant Survey

The local inhabitant survey was conducted over two, two month periods (November/December 2003; August/September 2004), which included both high and low season domestic and international tourism months for the Okavango Delta region. A map depicting the Okavango Delta region was used to locate the larger towns and villages of Maun, Shakawe, Etsa 6, Seronga and Gumare (Figure 4.1). A total of ten households in each of these towns were selected randomly, with one member (over the age of 18) in each household interviewed. Therefore, a total of ten local inhabitants were interviewed in each of the towns in the Okavango Delta.

The interviews were conducted orally, in Setswana, with the aid of interpreters. The head of the household or a spouse was intended to be the respondent. However, in households where the head or spouse was absent, a family representative over 18 years of age became the interviewee. In Botswana, most rural populations are unable to read or write, but do speak Setswana. Hence, with the aid of an interpreter, language constraints were not experienced to the extent of introducing bias into the survey.

A structured English questionnaire form (Appendix Five) was prepared for the survey, with the questions administered orally through the interpreter, to the participants. Survey answers were recorded onto the questionnaire form as the interview progressed.

Figure 4.1: Map of the Okavango Delta Showing the Location of Towns/Villages used in Local Inhabitant Survey



Source: Adapted from Mendelsohn and el Obeid, 2004.

4.9 Methods of Data Collation, Synthesis and Analysis

4.9.1 Qualitative Data Analysis

Data obtained during in-depth interviews was predominantly qualitative in nature, hence requiring a method of qualitative data analysis. One such method, which was utilised for this study, is the method of grounded theory. According to Neuman (2000), grounded theory is "...theory that is built from data or grounded in the data" (p. 146). Within the method of grounded theory, data is organised into analytical categories that address the relevant research questions, that take into consideration the research literature, and which will allow the greatest amount of data to be coded without forcing them into categories or having categories that are so sprawling as to be virtually meaningless. This consists of the initial stage of grounded theory analysis, after which further data is collected with a view to refining the analytical categories (Arksey and Knight, 1999; Tompkins, 2002).

Data collected from both the qualitative and quantitative surveys was stored and analysed using the Statistical Package for Social Sciences (SPSS) programme.

The subjects of tourism and natural resource management, as areas of study, are vast and present numerous complexities and dimensions which must be considered and related to the research topic. As a result of this, the interviewees selected for this study are not from a homogenous group, as a varied range of types and levels of expertise and knowledge were required to obtain relevant data. Different questions were administered to each interviewee, based on their area of expertise and activity, which necessitated an interpretation of the interviews according to the themes which arise from the conceptual framework (Figure 4.2) in order to synthesise some of the primary concerns of this complex area of study (Tompkins, 2002).

This study, therefore, primarily utilised the element within the accepted grounded theory analysis procedure, that grounded theory "...start(s) out with a research question and little else" (Neuman, 2000, p. 144, cited in Tompkins, 2002). As a result, the methodology for data analysis was developed as follows:

4.9.2 Conceptual Framework

The conceptual framework (Figure 4.2) was derived from preliminary readings for the research topic, which defines the scope of the literature review in chapter two, where its theoretical elements are considered. The elements of the framework that deal with tourism, natural resource management and their related socio-economic and environmental impacts specifically related to the area of study are presented in chapter five. The framework is grounded in the concept that collaborative resource utilisation and management based on concepts of sustainability and local/community based development are critical to the long-term preservation of the area's natural resources and the future growth of the tourism industry.

International, national and regional policies, act and protocols contribute to a means of developing and reaching solutions to resource management constraints and problems. However, such instruments must be integrated with the emerging principles of environmental and natural resource management (de Chazournes, 1998). These principles provide a framework for resource management institutions, while national law gives effect to these principles and ensures the rights of local users are upheld. As such, an integration of legal instruments and natural resource management principles can aid the development of collaborative management systems for areas, such as the Okavango Delta, whose economic mainstay is reliant upon the utilisation of natural resources (Tompkins, 2002).

The conceptual framework, therefore, essentially comprises both elements of legislation and resource management and tourism theory, as well as the practical elements of resource utilisation and management and its resultant impacts.
An analysis of selected international environmental conservation agreements and national governmental policies and Acts were analysed from sources including the text of the agreements, policies and Acts themselves, scientific papers, conference session proceedings, project proposals and natural resource management reviews. The major themes that arise from the conceptual framework include: national and regional management structures present in the area of study; tourism management in the area of study; natural resource management in the area of study; and the related socio-economic and environmental impacts resulting from tourism

development and changes in traditional natural resource management and utilisation structures in the Okavango Delta.

These major themes were used to evaluate the current status of tourism and natural resource management in the Okavango Delta, with a view to gaining a more comprehensive understanding of tourism's impacts on natural resources in the area of study.

4.10 Summary and Conclusion

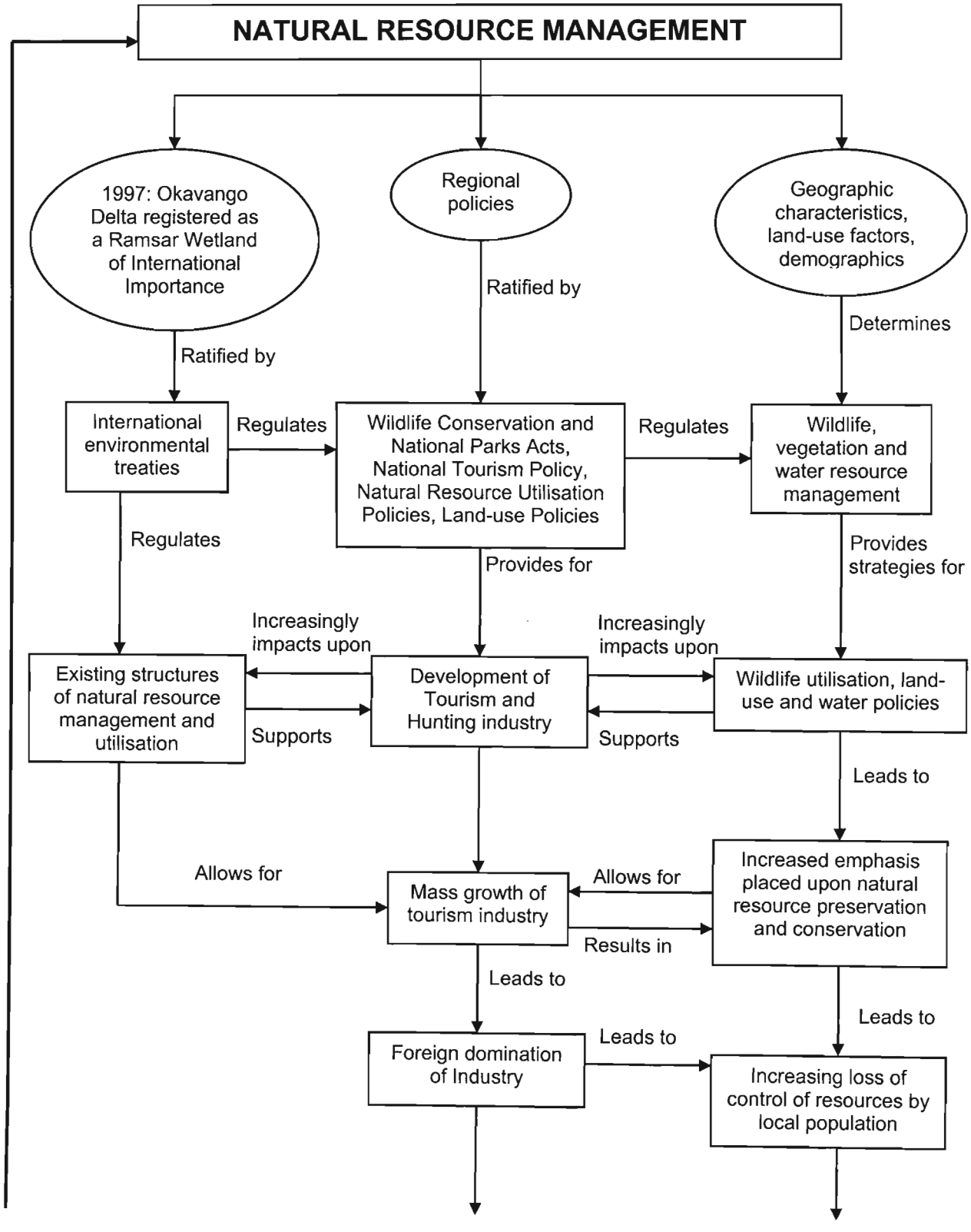
A total of 224 tourists, 63 managers of hotels, lodges and safari camps, and 50 local inhabitants in the Okavango Delta region took part in three structured questionnaire surveys. The data was used to ascertain the interrelationships between tourism development, natural resource management and socio-demographic, environmental, economic and cultural factors. A total of 15 government employees, academics, private sector employees and other key tourism and natural resource personnel were subjected to in-depth interviews. The data was used to ascertain the current status of tourism and natural resource management and utilisation in the Okavango Delta region, and their associated problems.

Careful consideration was given to the conceptual framework on which the hypotheses for this study were based, due to the complex nature of the interrelationships between the tourism industry and natural resource management. This study intends to establish a baseline of information on the physical impacts of tourism on an area's natural resources, as well as its associated socio-economic impacts on local inhabitants dependent upon such resources.

The next chapter provides an overview of the country of Botswana, and the study area, the Okavango Delta.

Lastly, Figures 4.3 and 4.4 present a schematical representation of the methodological process undertaken with regard to the objectives of the study.

Figure 4.2: Conceptual Framework for the Role of Tourism in Natural Resource Management in the Okavango Delta, Botswana



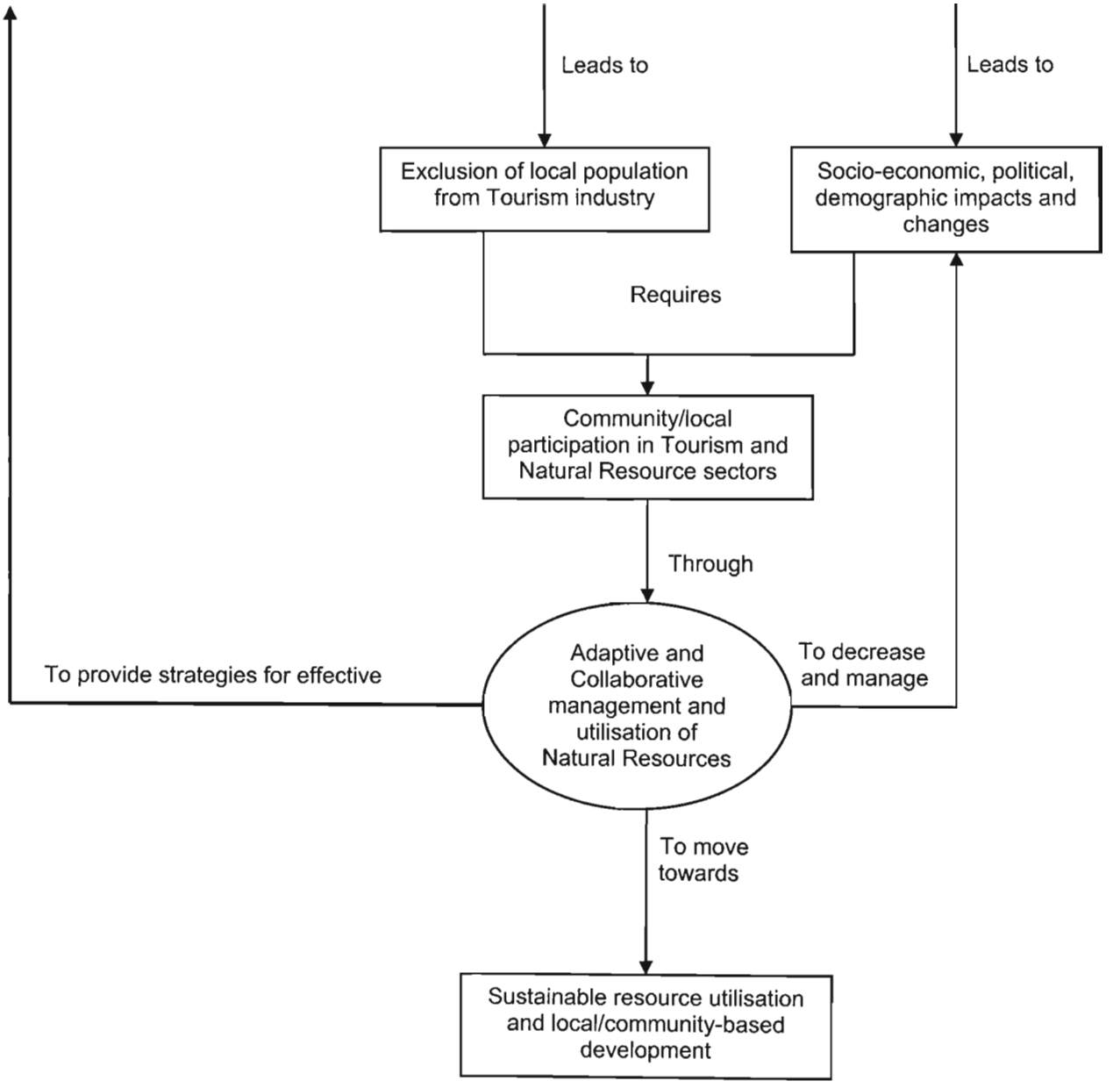

Leads to
Leads to
Exclusion of local population from Tourism industry
Socio-economic, political, demographic impacts and changes
Requires
Community/local participation in Tourism and Natural Resource sectors
Through
Adaptive and Collaborative management and utilisation of Natural Resources
To provide strategies for effective
To decrease and manage
To move towards
Sustainable resource utilisation and local/community-based development

Figure 4.3: Methodological Process

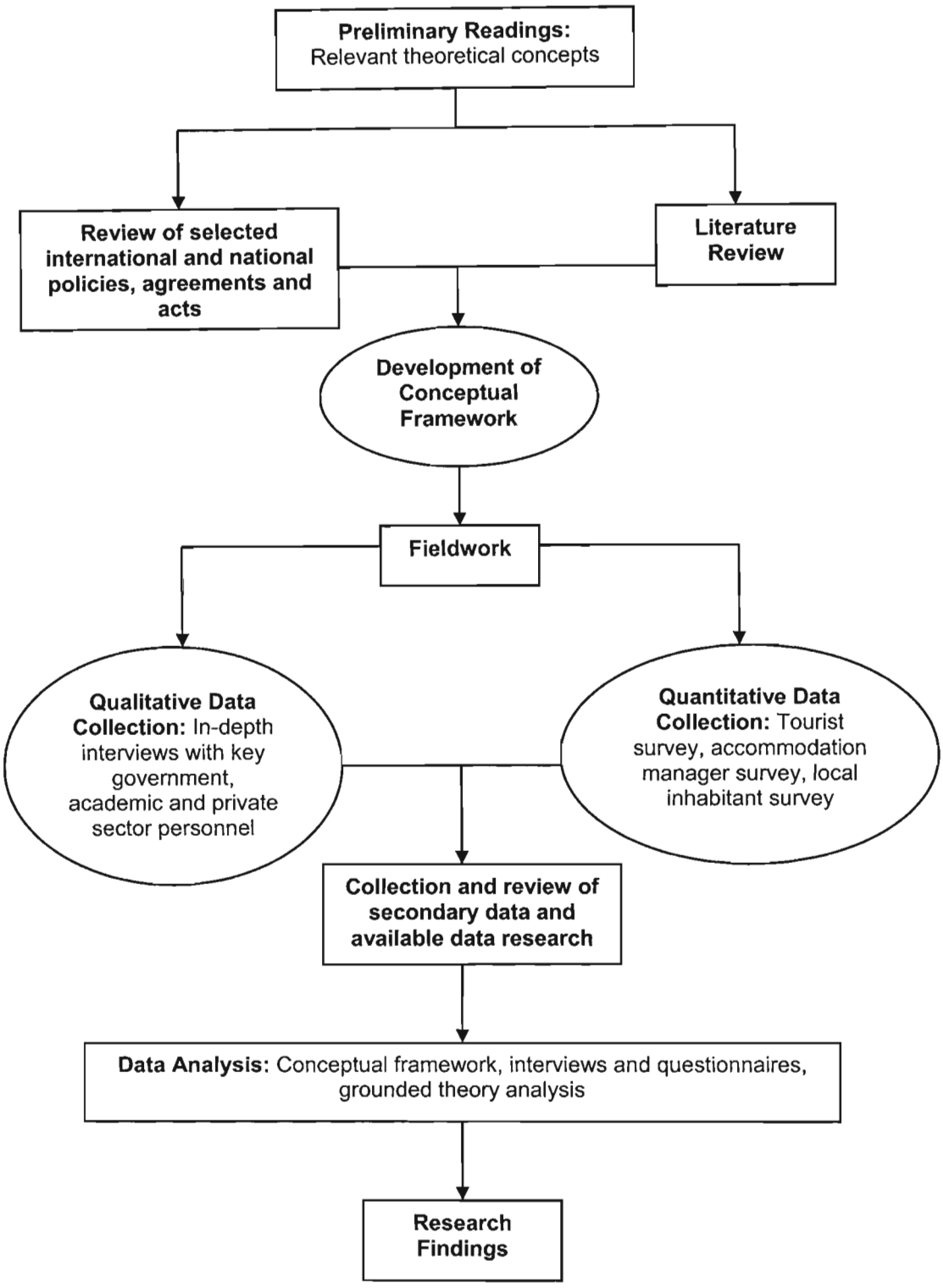
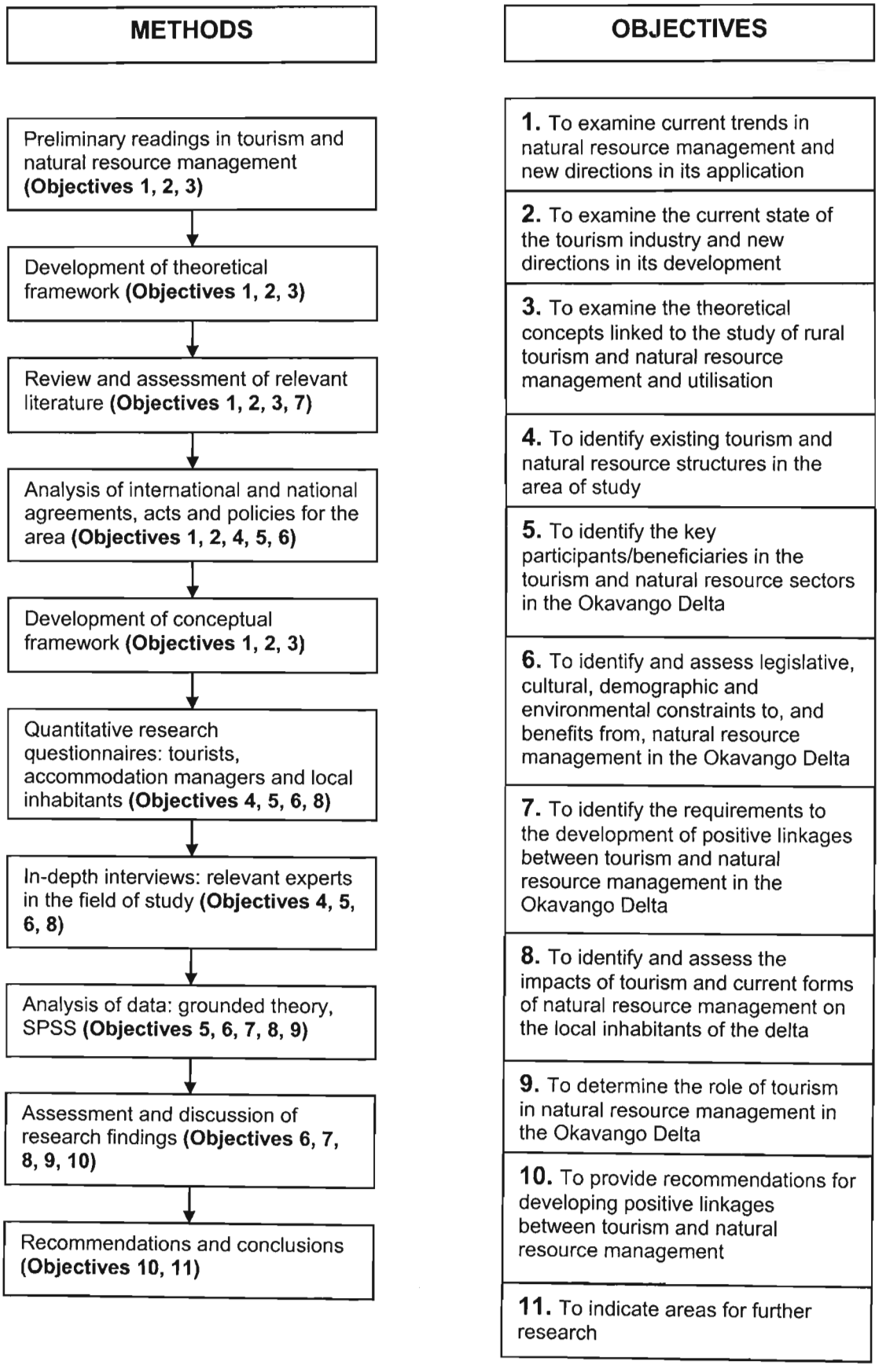


Figure 4.4: Methods and Objectives of Study



CHAPTER FIVE

Okavango Delta in Botswana: A Socio-Economic and Historical Perspective

5.1 Introduction

In many ways, Botswana has had one of the most intense and successful economic growth experiences amongst sub-Saharan nations in the post-colonial era (Valentine, 1993). Botswana has achieved remarkable social and economic progress since independence in 1966. No other country in the world, over a period of little more than three decades, has had higher growth rates. Even the 'Asian Tigers' have not been as successful. Sound economic management has allowed the country to transform itself from being one of the poorest nations in the world to its present status as a middle-income country. Botswana also has the distinction of being globally, the only country ever to have 'graduated' from the Least Developed Countries (LDC) group, in 1994 (Carbone, 2003).

Such formidable growth has however, come at a high price. The cultural life of Botswana's population has been severely battered by the demands of a Twenty-First century existence and the fight for a place in the world economy. Traditions are disappearing overnight, family structures are under enormous pressure, urban drift has become an unstoppable flood, population growth is exponential and the generation gap has become a gulf separating children and parents (Main, 2001). The government still has to deal with high rates of poverty and unemployment and the major threat to Botswana's progress, the severe problem of HIV/AIDS, which is casting a shadow over the country's economic growth and human development (Carbone, 2003).

Botswana's development has largely depended upon mining, especially diamonds, and the cattle industries, and has been extractive and export driven (Valentine, 1993; Carbone, 2003). However, there are increasing concerns regarding the

diminishing returns of extractive industry and the vulnerability of the cattle industry to importers' decisions, disease and drought (Lilywhite and Lilywhite, 1991). Economic diversification is essential to ensure continued prosperity and the government has been exploring new options which will allow the utilisation of human resources to support new service-based economic sectors. These include, for example, financial services, information technology, and of course, tourism (Carbone, 2003). Many other developing countries, in both sub-Saharan Africa and elsewhere, see tourism as a sustainable way to earn foreign exchange and provide large numbers of skilled and unskilled jobs for the local population (Hitchcock, 1991; Young, 1995).

This chapter comprises three major sections. The first section gives a broad overview of the country of Botswana as a whole, providing information on the economy, demographics, resources and tourism. The second section provides an overview of the study area, the Okavango Delta in northern Botswana, focusing on general demographics and natural resource utilisation in this region. The final section provides information on the history of the development of the tourism industry and natural resource utilisation in the country, and an overview of the government institutions, policies and issues in Botswana which impact upon tourism and natural resource utilisation and preservation.

5.2 Botswana – A Country Overview

5.2.1 Geography

Botswana is a landlocked country situated in southern Africa. It lies between 18 to 27 degrees South and 20 to 29 degrees East, with approximately 75 percent of the country lying in the tropics. However, due to its altitude (an average 1000 meters above sea level), and distance from the oceans, the climate is temperate rather than tropical. Rainfall is low, erratic and unevenly distributed, ranging from 650 mm in the northeast to less than 250 mm in the southwest of the country (MacGregor Hutcheson, 2002). The country is bordered by Namibia to the west and north, Zambia to the north, Zimbabwe to the east and South Africa to the south and

southeast (Figure 5.1). Botswana occupies a total area of 581 730 square kilometres (Republic of Botswana Statistical Bulletin, 2001).

Botswana has, for an African country, a relatively small population, with most of the country's 581 730 square kilometers consisting of sparsely populated desert or semi-desert. The climate in Botswana can be described as semi-arid. Temperatures are high in summer, but often reach sub-zero levels during winter months. The distribution of rainfall is uneven throughout the country both in space and time. The rate of precipitation is much lower than that of evaporation and transpiration, and water is therefore scarce, with rivers that are ephemeral and mostly subterranean. Ground water exists at varying depths throughout most of Botswana. The northwestern Ngamiland District which contains the Okavango Delta and Panhandle is an exception in that major rivers in this area are somewhat perennial (Ndubano, 2000).

The eastern strip of Botswana, which is the best-endowed and most developed region, and where the towns and cities are fairly populous, possesses approximately 80 percent of the population (MacGregor Hutcheson, 2004). Rainfall in this region is relatively stable, ground water not very deep, and the soil is reasonably fertile and available for farming. The availability of water in Botswana is a dominant factor influencing the pattern of human settlement (Republic of Botswana Demography Survey, 1998).

Botswana is divided into nine districts, each with its own administrative center. These include the Southern, South East, Kweneng, Kgatleng, Central, Ngamiland, Chobe, Ghanzi and Kgalagadi districts (Africa Contemporary Record, 2000).

5.2.2 Demographic Characteristics

Citizens of Botswana are properly referred to as Batswana (singular, Motswana) and the language is Setswana. According to the CIA World Factbook, the population of Botswana is estimated at 1 561 973 (July 2004 est.). This estimate explicitly takes into account the effects of excess mortality due to AIDS, which has resulted in lower life expectancy, higher infant mortality and death rates, lower population and growth rates, and changes in the distribution of population by age and sex than would

Figure 5.1: Map of Botswana

Source: Republic of Botswana Statistical Bulletin, 2001.

otherwise be expected (CIA World Factbook, 2004). According to the August 2001 census, Botswana's population totalled 1 680 863, compared to 1 326 796 at the previous census in August 1991, representing a 21 percent increase (Republic of Botswana Statistical Bulletin, 2004; Van Buren, 2004). However, according to the CIA World Factbook, there has been a 118 890 or seven percent decrease in the total population since 2001, which can be attributed directly to AIDS (CIA World Factbook, 2004).

Botswana experienced rapid urbanisation over the past two decades. Only 18,2 percent of the population lived in urban areas in 1981, and in 1991 this amounted to 45,69 percent (606 239 persons) (Republic of Botswana Statistical Bulletin, 2004; Van Buren, 2004). In 2001, urban area populations accounted for 54,17 percent of the total population, while rural areas accounted for 45,83 percent, clearly showing that the country is increasingly becoming urbanised. In 2001 average household size for urban and rural areas were 3.81 and 4.49 persons, respectively (Republic of Botswana Statistical Bulletin, 2004).

5.2.3 Socio-Economic Profile of Botswana

5.2.3.1 Economy

At the time of independence in 1966, Botswana was counted as one of the ten poorest nations on earth (Main, 2001). It was surrounded by hostile white minority governments and had few known prospects for economic development (Saunders, 2002). There was very little infrastructure, with only one railway line in the eastern region, and just eight kilometres of tarmac road (one in Francistown and seven in Lobatse), no government secondary schools, no industry or economy to speak of, no known mineral deposits, and a population of only 543 000 people (Main, 2001; Saunders, 2002; Van Buren, 2004).

It was the discovery of diamonds in the late 1960s and 1970s that really transformed its economy and moved Botswana out from among the 'beggars' into 'Africa's Super League', providing a level of stability that is rare in the continent (Main, 2001; Van Buren, 2004). Diamonds have transformed Botswana into one of the wealthiest countries in Africa, and it is the world's third-largest producer generating a growth

rate and economic progress seldom paralleled elsewhere (Main, 2001). Over the years this precious commodity has significantly alleviated the effects of regional problems experienced in other sectors, such as livestock and tourism. Botswana promotes its output as 'diamonds for development', as an alternative to so-called 'conflict diamonds', and much of the country's revenue from diamonds has funded, and continues to fund its development (Van Buren, 2004).

Botswana's government, to its credit, has tended to spend the windfall wisely, developing a world-class road network, an excellent telephone system, education programme and a reliable electricity grid within the country. This success, however, has brought its own problems. According to a recent survey conducted by the International Monetary Fund, there is an urgent need for Botswana to reduce its dependency on diamonds. Only 70 percent of world diamond sales are controlled by De Beers' Central Selling Organisation, and that figure may well decline. With a decrease in centralised control of the market, there is an increased variation in price and this, when diamonds account for nearly a third of Botswana gross domestic product and some 70 percent of export earnings, has a direct impact on the country's economy, making Botswana vulnerable to the fluctuation of diamond prices (Main, 2001). After diamonds, the next major contributor to Botswana's prosperity is interest earned on foreign holdings. Tourism, the cattle industry and mining (apart from diamonds) account for most other earnings, with tourism making an ever more significant contribution (Main, 2001).

According to the latest data available for the period up to 2002/03, Botswana's Gross Domestic Product (GDP) at current prices is estimated at 38, 560 million Pula (Republic of Botswana National Development Plan 9, 2003; Republic of Botswana Statistical Bulletin, 2004). The current US Dollar and Rand exchange rates (as of November 28th 2005) are 5,6 Pula to 1 US Dollar, and 1 Pula to 1.2 Rand (http://currencysource.com). The major contributors to GDP are: Mining and Quarrying (29,3 percent); General Government (16 percent); Trade, Hotels and Restaurants and Services (24,9 percent); Finance (10,8 percent) and Construction (5,3 percent) (Republic of Botswana National Development Plan 9, 2003).

Even though the mining sector has dominated the economy since the second half of the 1970s, there are indications that the economy is beginning to diversify. The

highest share of the mining sector to GDP was 52,6 percent in 1983/84, but its contribution to GDP by 2000/01 had decreased to 36,5 percent. Other sectors such as Government, Finance and Business services and Trade have made a substantial contribution to the economy during this period (Republic of Botswana National Development Plan 9, 2003).

Botswana's key to sustainable development centres on global competitiveness and economic diversification, as every country, including Botswana, faces great challenges from increasing globalisation, which requires domestic economic policies and strategies to be responsive to global challenges. Botswana's economy is an open one with a high trade-to-GDP rate which is closely intertwined with the overarching global economies (Republic of Botswana National Development Plan 9, 2003).

The significance of developing a long-term socio-economic development perspective for Botswana was recognised in 1997, when the development of "A Long-term Vision for Botswana: Towards Prosperity for All", or 'Vision 2016' was released (Republic of Botswana National Development Plan 9, 2003, p.12). While national development plans in Botswana have always been guided by four national principles of Democracy, Development, Self-reliance and Unity, Vision 2016 strives for a refocusing of these principles to embrace change and to relate them to the country's development challenges. According to the Vision, by the Year 2016 Botswana must have identified goals to be reached, major challenges that must be met, and opportunities that must be productively exploited to attain these national aspirations (Republic of Botswana National Development Plan 9, 2003).

Vision 2016 set a target of trebling the per capita real income of Batswana over the 20 year period from 1996 to 2016. This would require per capita real GDP to grow at an average annual rate of approximately 5,6 percent, and total real GDP to grow at about 8 percent per annum. Compared to this target, the actual average growth rate of total GDP from 1995/96 to 2000/01 has been lower, at approximately 7,0 percent per year. This, together with the latest projections, indicates that the average growth rate from 1995/96 to 2008/09 will be around 5,9 percent per annum. With the population growing at an average rate of 2,1 percent per year, per capita income will grow at approximately 3,7 percent per year over this period, as compared to the 5,6

percent growth targeted in Vision 2016 (Republic of Botswana National Development Plan 9, 2003).

With regard to these projections, what growth rate will Botswana need to achieve between 2008/09 and the critical Year 2015/16 to make up for this shortfall in growth up to 2008/09, and still achieve the Vision target of trebling Botswana's real per capita income by 2015/16? Assuming that the population continuous to grow at 2,1 percent per annum over that period, the required growth rate during the period of 2008/09 to 2015/16 will be about 9,5 percent for per capita GDP and 11,8 percent for total GDP (Republic of Botswana National Development Plan 9, 2003).

5.2.3.2 Employment Status

According to the Republic of Botswana Mid-Term Review of National Development Plan (NDP) 8 (2003), formal sector employment grew by 25 200 employees (8,4 percent) from 272 800 persons in March 2001 to 298 000 persons in March 2003. Private and parastatal sector employment grew by 10 500 persons (7 percent) from 155 900 persons in March 2000 to 166 400 persons in March 2001. Local government employment figures increased by 600 persons (3 percent) from 20 400 persons in March 2000 to 21 000 persons in the corresponding quarter of 2001 (Republic of Botswana Statistical Bulletin, 2001). According to Van Buren (2002), the government is the second largest formal sector employer, accounting for approximately 37 percent of employment, followed by the parastatal sector (59 percent). The primary sector, including agriculture and mining, has a falling employment percentage of approximately one percent every two years. The private sector is still the largest formal sector employer accounting for approximately 57 percent of employment. Botswana's agricultural sector employs an estimated 44 percent of the economically active population. However, the majority of the employment is categorised as informal sector employment or self-employment, with a considerably smaller number of 'formal sector' agricultural professionals and technicians. The number of Batswana employed in South African mines, which stood at a record 25 500 in 1976, had fallen to 12 464 by 1997, and to 6 393 by September 2000. As priority in mine employment is now given to South African citizens, this figure is unlikely to rise (Van Buren, 2002).

During the current National Development Plan period of 2003/04 to 2008/09, growth in employment is expected to average 5,6 percent per annum. The trade, hotel and restaurants and manufacturing sectors are projected to record strong growth of employment, as a result of their high labour intensity and projected high GDP growth rates. The government sector is expected to move away from its role as one of the major employers, with an estimated 2,4 percent growth of employment per annum, bringing down its share in employment by 5,2 percent during this National Development Plan period. This relatively weak growth of employment in the government sector is expected to make way for higher employment growth rates in the private sector. On the other hand, employment in the mining sector will decrease by 0,1 percent as a result of the expected decline of output in the sector (Republic of Botswana National Development Plan 9, 2003).

Botswana's unemployment rate rose from 10,2 percent in 1981 to 21,5 percent in 1996, before declining to 15,8 percent in 2000. Despite the fall, the unemployment rate is still very high and constitutes a major socio-economic problem for the country. It appears anomalous that unemployment has remained a problem when the population has been increasing at just over 3 percent per annum for almost three decades, while the economy has been growing, on average, at 10 percent. The principal reason for this is that mining, which accounts for most of the growth in the economy, creates very little direct employment as a result of its relatively capital-intensive nature. On the other hand, the agricultural sector which is highly labour intensive has decreased over the years, relative to the rest of the economy. This is generally a result of the low productivity of the agricultural sector due to the use of outmoded and inappropriate technologies, which is worsened by the recurrence of drought (Republic of Botswana National Development Plan 9, 2003).

5.2.3.3 Income

The current median monthly household disposable incomes in Botswana are Pula 734; Pula 430; Pula 200 for towns, urban villages and rural areas, respectively. The national figure is Pula 373. The corresponding mean monthly cash incomes are Pula 1525; Pula 731 and Pula 441, with the national figure being Pula 833. The national minimum wage for most industries in Botswana is Pula 2.90 per hour (effective from June 2004). Formal sector employment pays well above minimum wage levels, while

informal sector work, especially in agriculture and domestic services, frequently pays below the legal minimum (Republic of Botswana National Development Plan 9, 2003).

Poverty remains one of the major development challenges facing Botswana. Poverty is calculated on the basis of the Household Income and Expenditure Survey data, with approximately 47 percent of Botswana individuals and 38 percent of households, living in poverty. A higher proportion (50 percent) of female-headed households were living in poverty compared to 44 percent of male-headed households. It was further estimated that 62 percent of poor or very poor Batswana were living in rural areas, 24 percent in urban villages and 14 percent in urban areas. The data also indicated that 23 percent of the population lived on less than one US Dollar per day. According to the consultancy on the formulation of a national poverty reduction strategy, the percentage of the population living below the poverty datum line was estimated to have fallen to 36,7 percent by 2001. The goal of Vision 2016 is, however, to reduce the proportion of the population living below the poverty datum line to 23 percent by the year 2007 and to zero by the year 2016. The devastating impact of HIV/AIDS is, however, likely to render this goal almost unattainable (Republic of Botswana National Development Plan 8, 2000; Republic of Botswana National Development Plan 9, 2003).

There are numerous reasons behind Botswana's poverty situation. A lack of income has been identified as the most immediate cause of poverty, which in turn is related to a lack of wage employment and insufficient opportunities for self-employment. A narrow resource base is another important cause of poverty, and a lack of human capability in education and health is also a contributing factor as this affects people's ability to take up opportunities and improve their livelihoods. Botswana has a major problem with low productivity, especially in the agricultural sector. Underlying this problem is the poor rainfall and soil conditions in much of the country as well as perennial droughts (Republic of Botswana National Development Plan 8, 2000).

A number of socio-economic studies conducted in Botswana show that women are in a worse position economically, socially and otherwise than their male counterparts. According to the two Household Income and Expenditure Surveys

carried out in 1985/86 and 1993/94, a major proportion of the poorest sections of Botswana's society are women. A 1997 Botswana Institute of Development Policy Analysis Study on Poverty and its alleviation found that female-headed households are the principal poverty groups. Female-headed households have a significantly greater burden of dependants, decreased income earning capacity and fewer assets and other resources (The Wage Gap between Men and Women in Botswana's Labour Market, 1999). According to Siphambe (1997), female employees in Botswana's labour market are, on average, more educated than male employees, yet generally earn significantly less than their male counterparts. Kann *et al* (1998) also show that for every level of education obtained, women have lower average earnings than men.

5.2.4 Land Use

There are three main types of land tenure in Botswana. These include communal land, freehold land and state land (Table 5.1) (Republic of Botswana Environmental Statistics, 2000).

5.2.4.1 Communal Land

Communal land, which is also known as tribal land, comprises about 55 percent of the total national land area (Table 5.1). There are twelve tribal Land Boards in Botswana who hold all Communal (Tribal) land in trust for the citizens of Botswana and allocate it to citizens for residential, commercial and agricultural uses. All Batswana, regardless of sex, are entitled to communal land for their personal use. On allocation, the holder does not pay for the land, but does not acquire any exclusive or perpetual rights to it. Nevertheless, in practice, if the land is used for the allocated purpose, it stays in the family indefinitely, and is used as if exclusive and perpetual rights have been obtained, with the exception of grazing rights. However, the owner of a borehole holds *de facto* rights to the water and surrounding grazing resources. In addition, 15- and 50-year leases have been introduced for areas of tribal land which have been zoned for commercial use, such as tourism ventures (Republic of Botswana Environmental Statistics, 2000).

Table 5.1: Land Use/Tenure in Botswana

Use/Tenure	Land, square kilomtres	Percentage of Total Land
Communal Land		
Pasturer, Arable and Residential areas	281 615	48.4
Tribal Grazing Land Policy Ranches	24 292	4.2
Lease ranches	13 090	2.3
Sub-Total	**318 997**	**54.8**
Freehold Land		
Freehold farms	19 109	3.3
Arable blocks	320	0.1
Sub-Total	**19 429**	**3.4**
State Land		
National parks	45 900	7.9
Game reserves	60 558	10.4
Forest reserves	4555	0.8
Wildlife Management Areas	128 574	22.1
Quarantine and Botswana Livestock Development Corporation ranches	3717	0.6
Sub-Total	**243 304**	**41.8**
Total Land	**581 730**	**100.0**

Source: Republic of Botswana Environment Statistics, 2000.

5.2.4.2 Freehold Land

Freehold land comprises around three percent of the total national land area (Table 5.1) in designated blocks situated along the southern and eastern boundaries of the country (Botswana's most fertile agricultural land), and a few blocks in the western part of the country. Freehold land entitles the owner to perpetual and exclusive rights to the property, including its natural resources, with the exception of wildlife. The bulk of freehold land consists of private commercial farms which are dominated by the livestock sector (Republic of Botswana Environmental Statistics, 2000).

5.2.4.3 State Land

State land comprises about 42 percent of the total national land area (Table 5.1). This land consists of areas that the government has reserved for conservation purposes, and quarantine ranches belonging to the Botswana Livestock Development Corporation (BLDC), villages, towns and cities. Most of the state land

is reserved as conservation areas (about 98 percent). These areas consist of national parks, game reserves, forest reserves and Wildlife Management Areas (WMAs), which comprise about eight percent, ten percent, one percent and twenty-two percent of total land area, respectively (Table 5.1). The area covered by villages, towns, cities and BLDC quarantine ranches makes up only around one percent of the total national land area (Republic of Botswana Environmental Statistics, 2000).

5.2.5 Changes in Land Use at National Level

The amount of land allocated under the three major land uses in Botswana changed during the period of 1974 to 1995 (Table 5.2). The most significant changes took place to communal and state land as a result of the re-allocation of areas of communal land to state land. This was generally due to the creation of Wildlife Management Areas (WMAs) which did not exist in 1974, but took up 23 percent of national land area by 1995, and the creation of additional forest reserves during the same period. WMAs are natural areas reserved predominantly for wildlife utilisation. WMAs provide corridors of land for the long-term conservation of wildlife through the provision of extended wildlife habitats. The WMAs provide migratory corridors for the free and unhindered passage of wildlife between major parks and game reserves (Republic of Botswana Environmental Statistics, 2000).

As a result of the re-allocation of land, the share of total land area that fell under the Communal Land Tenure system dropped from 459 601 square kilometres (79 percent) to 318 997 square kilometres (54,8 percent), while that of state land increased from 103 170 square kilometres (17,7 percent) to 243 304 square kilometres (41,8 percent) by the end of 1995 (Table 5.2) (Republic of Botswana Environmental Statistics, 2000).

It is, however, important to note that 99,6 percent of the total re-allocated land was a result of the re-designation of communal land to land reserved for conservation uses (Table 5.2) (Republic of Botswana Environmental Statistics, 2000).

Table 5.2: Land Use/Tenure Change in Botswana (square kilometres) 1974 - 1995

Land Use/Tenure	1974		1981		1995	
	Land Area square kilometer	Percentage of Total Land Area	Land Area square kilometer	Percentage of Total Land Area	Land Area square kilometer	Percentage of Total Land Area
Communal Land						
Past/arab/resid	446 511	76.8	415 315	71.4	281 615	48.4
TGLP ranches			24 292	4.2	24 292	4.2
Lease ranches	13 090	2.3	13 090	2.3	13 090	2.3
Sub-Total	**459 601**	**79.0**	**452 697**	**77.8**	**318 997**	**54.8**
Freehold Land						
Freehold farms	18 959	3.3	19 429	3.3	19 109	3.3
Arable blocks					320	0.1
Sub-Total	**18 959**	**3.3**	**19 429**	**3.3**	**19 429**	**3.4**
State Land						
National parks	37 360	6.4	37 815	6.5	37 815	6.5
Game reserves	62 239	10.7	63 517	10.9	63 517	10.9
Forest reserves	163		4555	0.8	4555	0.8
WMA's					133 700	23.0
QBLDC	3408	0.6	3717	0.6	3717	0.6
Sub-Total	**103 170**	**17.7**	**109 604**	**18.8**	**243 304**	**41.8**
Total Land	**581 730**	**100.0**	**581 730**	**100.0**	**581 730**	**100.0**

Source: Republic of Botswana Environment Statistics, 2000.

As Table 5.2 shows, Botswana has at least 111 011. 75 square kilometres of protected area, which is 19,1 percent of the total land area of the country. In addition, a further 23 percent is reserved for conservation use as Wildlife Management Areas (WMAs). Therefore, about 42 percent of Botswana's land area is reserved for conservation purposes (Republic of Botswana Selected Environmental Indicators, 2002).

5.2.6 Wildlife Management Areas (WMAs)

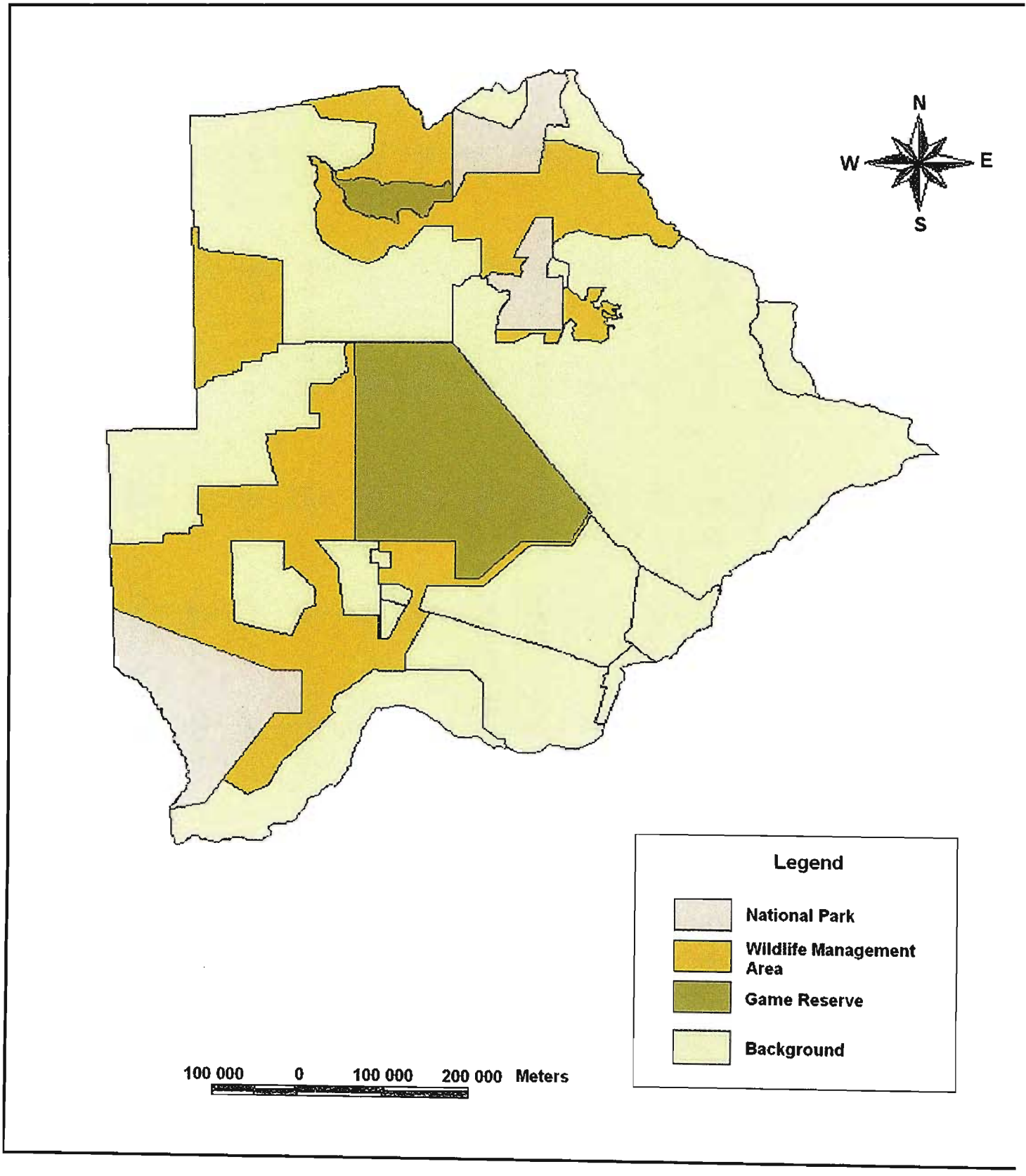
WMAs are an integral part of Botswana's tourism policy implementation. They facilitate the implementation of the wildlife resource orientated Community Based Natural Resources Management (CBNRM) programme. The Botswana Government has adopted CBNRM as a way of ensuring that communities participate in natural

resource conservation and realise tangible benefits from the management of natural resources (Republic of Botswana National Development Plan 9, 2003).

Wildlife Management Areas (WMAs) arose out of the Tribal Grazing Land Policy of 1975 and, more specifically, the Wildlife Conservation Policy of 1986, and were established to serve as migratory corridors for wildlife between the protected areas as they allow for movement that is essential for the survival of Botswana's wildlife in this arid environment. They also act as buffer zones between human settlements (livestock areas) and the protected areas, where the two are in proximity to one another. Lastly, the WMAs helped in the decentralising of wildlife conservation and management to local communities who bear the cost of living with the wildlife. To date, Botswana has been divided into 11 WMAs, which contain a further 163 Controlled Hunting Areas (CHAs) within them (Figure 5.2) (Republic of Botswana National Development Plan 9, 2003).

The problems associated with WMAs are that they are generally perceived by local communities to be inhibiting to the expansion of grazing land, the development of boreholes/watering points and access to ploughing land. The ever-expanding human activities such as livestock rearing, settlements and roads threaten wildlife in WMAs. However, wildlife and WMAs also provide opportunities for diversified economic development in the rural areas. WMAs are meant to benefit the local communities that live in or near them, and through the CBNRM programme, opportunities have opened up for local communities to be involved in natural resources conservation and management. The communities who bear the cost of living close to the natural environment can now benefit directly from natural resources utilisation in these areas (Republic of Botswana National Development Plan 9, 2003).

Figure 5.2: Protected Areas and Wildlife Management Areas (WMAs) in Botswana



Source: Republic of Botswana National Development Plan 9, 2003.

5.2.7 Pressure on the Land

In most parts of Botswana pressure on the land resource is primarily due to the expansion of human activities which are spawned by rapid population growth, poor productive capacity of most of the land and institutional arrangements. These factors interact to generate impacts that vary from area to area depending on the levels at which they interact (Republic of Botswana Environmental Statistics, 2000).

Persistent pressure on land can lead to land degradation, which is a situation that constitutes the reduction or loss of the biological or economic productivity of that land. According to the National Settlement Policy's Final Report (June, 1998), issues of concern under land use and tenure in Botswana include the mismanagement of grazing land particularly in communal areas, the unwarranted change of limited fertile arable land to other uses, and land use conflicts.

5.2.8 Agriculture

Botswana's agricultural sector employed an estimated 44 percent of the economically active population in April 2003, a level that has changed little for more than a decade. Composed partly of semi-desert and savannah areas, with erratic rainfall and relatively poor soils, the country is more suited to grazing than to arable production, with only about five percent of the land being arable (Van Buren, 2004). Low and erratic rainfall, endemic droughts and the uneven distribution of land resources severely hamper rainfed farming, while at the same time, irrigated agriculture is constrained by uncertain and scattered water resources, low yields and stiff competition for water from other sectors. These natural conditions clearly hamper the ability of the agricultural sector to meet the national objectives of food security, alleviation of poverty, increased agricultural output and productivity, the creation of employment opportunities, and the effective utilisation of land, water and human resources within a sustainable environment (Republic of Botswana National Master Plan for Agricultural Development, 2000).

At the time of independence in 1966, agriculture contributed approximately 40 percent to Botswana's GDP, a large percentage of which was accounted for by

subsistence arable farms together with a relatively active livestock sub-sector. Since then, the economic importance of the agricultural sector, with respect to GDP, has declined sharply (Republic of Botswana National Master Plan for Agricultural Development, 2000). According to provisional figures, agricultural GDP declined at an average annual rate of 1,5 percent from 1991/92 to 2001/02. The improved management of the agricultural sector is a priority for the Botswana Government, owing to its key role in providing employment. A lack of rainfall in early 2003, however, heralded poor results. Given an area of 325 000 ha of arable land, only 14 105 ha had been ploughed by January 2003, which was less than five percent (Van Buren, 2003).

In June 1998, the Botswana Government formulated a plan, now known as the National Master Plan for Arable Agriculture and Dairy Development (NAMPAADD), aimed at increasing productivity and at guiding investment to protect the country's fragile rangelands which were at risk from overgrazing. The scheme focused on diversification into fields such as horticulture, forestry, game keeping and bee keeping. The national budget for 2000/01 allocated five million Pula to implement projects under NAMPAADD, including demonstration dairy and vegetable farms and a strategy for reusing wastewater for irrigation in this generally dry country. NAMPAADD's risk-cover policy, aimed at insuring producers against production losses resulting from unexpected extreme natural conditions, was due to be tested in 2003/04, as the drought conditions prevailing in 2003 would test the feasibility of this risk-cover policy to the limit (Van Buren, 2004).

The national cattle herd doubled during the first 16 years after independence. This was as a result of improved beef export prices, the expansion of available grazing through the drilling of new boreholes, and the establishment of effective disease control, based on a system of cordon fences and vaccination, which since 1981 has kept most of the country free from Foot and Mouth Disease. The success of the cordon fence system (in which huge areas of land are fenced off to separate cattle from wildlife), in controlling the spread of disease, generated a lucrative market within the European Union (EU). The EU offered preferential terms and significant price subsidies (in Botswana's case a 92 percent levy rebate, with a quota of 18 910 metric tons of beef per year) as long as the Lome Convention's stringent disease-control criteria were met. However, the cordon fence system has generated

international controversy over its impact on wildlife. The fences halted traditional migratory movements, trapping animals in parcels of fenced off land. The criticism was intensified by the fact that the economic benefits from the beef exports almost exclusively accrue to the five percent of commercial agricultural farmers in Botswana that are estimated to own more than half of the national cattle herd. An estimated 50 percent of rural households neither own nor have access to cattle (Van Buren, 2002; Van Buren, 2004).

The World Trade Organisation (WTO) has proposed halting the EU beef subsidies enjoyed by Botswana and other African, Caribbean and Pacific (ACP) nations under the beef protocol of the Lome Convention. Beef quotas are to be slowly eliminated by the end of 2007. During the transitional period, Botswana and other ACP nations will prepare themselves for the establishment of reciprocity in trade with the EU in order to become WTO compliant (Van Buren, 2004).

In contrast to the cattle sector, sheep and goat numbers have been able to withstand the periodic droughts fairly well. Predominantly a subsistence-sector resource, the national goat and sheep herd increased from 776 000 head in 1982 to 2,62 million in 2001. Goats greatly outnumber sheep, standing at 2,25 million head in 2001 compared to just 370 000 head of sheep in that same year. Numbers of both animals have shown steady but modest growth over the previous four years. Apart from beef, the main commercial development has been in urban poultry farming. Botswana had an estimated 4 million chickens in 2001, 1 million more than in 1999. Efforts have also been made to improve the availability of eggs and chickens in rural areas and to increase the local production of milk and fish. Diversification efforts have concentrated on ostrich and fish farming, and on improving the infrastructure for the marketing of fresh milk. Ostrich farming is increasingly becoming a promising new industry, with plans to market the low-cholesterol red meat in Europe (Van Buren, 2004).

There are two distinct agricultural production systems in Botswana, namely traditional and commercial, with each system incorporating both crop and livestock components. The difference between these sub-sectors is based on land tenure, technologies and market integration. Commercial agriculture, largely associated with freehold farms is integrated in formal markets, whereas traditional farmers

predominantly produce for own consumption and sell whatever surpluses are available. Commercial farms presently comprise only eight percent of the country's agricultural areas. Botswana's food requirements are increasingly purchased by export earnings from the mining sector, although beef export earnings still adequately cover the cost of basic cereal imports (Republic of Botswana Statistical Bulletin, 2001; http://www.botswana-online...htm).

Food security at the household and national levels is the cornerstone of the Botswana Government's National Agricultural Policy. This is, naturally, related to the issue of domestic food production. Presently, farmers succeed in supplying only about 20 percent of the demand for grains, 15 percent of the demand for vegetables, 25 percent of the demand for fruits, and only 3 percent of the demand for dairy products, in an average year. Moreover, the yearly production of grains (mainly sorghum and maize) has varied considerably since 1980 as a result of frequent droughts, from 8 200 tons per year to 175 000 tons per year, with a mean annual production of 46 000 tons per year (Republic of Botswana National Master Plan for Agricultural Development, 2000).

In the arable agricultural sector, as with beef, commercial farmers provide a disproportionate share of crop production. It is estimated that just 100 commercial farms accounted for 34 percent of total output of sorghum, maize, millet, beans and pulses in 1999 (Republic of Botswana Agricultural Statistics, 1996; Van Buren, 2004). In Botswana an estimated 1,2 million hectares of land is reserved for the planting of crops, of which 387 400 hectares are owned within the traditional sector and 819 500 hectares within the commercial sector. There are an estimated 121 000 agricultural holders in the traditional sector and only 100 holders in the commercial sector. The actual commercial sector figure is estimated to be slightly higher due to the lack of cooperation by some commercial farmers who refused to take part in the 2001 national agricultural survey (Republic of Botswana Statistical Bulletin, 2001; Van Buren, 2004).

Rain fed crop production is the dominant form of agriculture practised in the traditional sector. The average size of farms in the traditional sector is five hectares. Of the 85 percent of small-scale farms producing crops in Botswana, almost one-third covered less than three hectares, and only 6,8 percent were larger than the ten

hectare minimum necessary for household self-sufficiency, even in years of adequate rains. Only 112 farms were larger than 150 hectares. As a result, as much as two-thirds of rural households are reported to depend for as much as 40 percent of their income on members employed in the formal sectors (Van Buren, 2004).

Most traditional farmers only use draft animal power during ploughing, which provides inadequate tillage. Typically, traditional farmers do not use agro-chemicals or practise row planting, and generally fail to follow a proper cultivation calendar. Consequently, they achieve very poor crop yields for the primary crops grown, namely sorghum, maize, millet and beans, in comparison to the few larger scale commercial rain fed farms in Botswana, and world averages. Several government schemes such as the Arable Land Development Programme (ALDEP), and the Financial Assistance Policy (FAP) are major factors in sustaining the farming population. Furthermore, when programmes which support farmers are considered, it is found that more is being spent by the government to sustain the arable sub-sector than its contribution to GDP (Republic of Botswana Government White Paper 1, 2002). Clearly, there is a problem of sustainability.

According to the Republic of Botswana Poverty Study (1997), the average per capita income for the rural population is about 1 500 Pula. However, the income of around 50 percent of landholders practising rain fed agriculture, who do not own cattle is unlikely to exceed 1 000 Pula in one year. For such households, formal employment at a minimum wage of 3 000 Pula per year would generally produce a higher income and would therefore be more attractive.

It has also been found that the low levels of income and high risks associated with traditional rain fed farming affects the age distribution of rural households. The farming population is ageing, with the average age of male farmers being about 57 years. Rain fed farming is also undergoing a process of feminisation due to the increasing out-migration of younger people, especially males, from rural areas in search of urban-based livelihoods which are perceived to be more financially viable and secure (Republic of Botswana Government White Paper 1, 2002).

In recognition of the need to improve the productive capacity of resource-poor farmers in the traditional arable sector, the Ministry of Agriculture in Botswana has, over the years, implemented a number of development-orientated programmes with the sole aim of promoting and improving the sector by providing an enabling environment for farmers and producers. These programmes include the Arable Land Development Programme (ALDEP) and Arable Rainfed Agricultural Programme (ARAP), Service to Livestock Owners in Communal Areas (SLOCA), the Bull Subsidy Scheme, the Artificial Insemination fund, the Agricultural Extension Fund No. 10 (AE 10), and other agricultural projects funded under the Financial Assistance Policy (FAP). The success of these programmes in improving the sectors productivity has been minimal, mainly due to:

- The absence of clear and monitorable sector-wide strategies and plans;
- Poor targeting of subsidies and poor performance of farmers;
- Unfavourable agro-climatic conditions, characterised by low and erratic rainfall and endemic droughts which make rainfed crop production risky; and
- Constraints to the development of irrigated agriculture due to uncertain and scattered water resources, low borehole yields, competition for water with other sectors and lack of a clear policy on apportionment of water for agricultural use, including irrigation (Republic of Botswana Government White Paper 1, 2002).

5.2.9 Environmental and Natural Resources

Botswana is endowed with many environmental and natural resources, which form the basis of its dualistic economy of modern and traditional sectors. Among the more common resources, land, wood and veld products, wildlife, livestock, water and mineral resources are predominant. Apart from minerals, all other resources have been a source of subsistence in rural Botswana for a very long time, and still remain

the backbone of the rural economy. In particular, livestock has been a major contributor to the national economy (Sekhwela, 1990).

Botswana also contains large, open rangelands with a vast population of wildlife. Wildlife, birds, amphibians, aquatic mammals, fish and plant life are considered important natural resources in Botswana, as much of the country's tourism industry is dependent upon such resources. Wildlife, fish and veld products also have a direct and indirect impact on the socio-economic lives of many people living in Botswana, particularly in the rural areas. The Okavango Delta is an important tourism resource, and, together with the Chobe, Linyanti and Limpopo rivers, form an important surface water resource. These waterways have significant biological, hydrological and economic value to the country as a whole (http://www.lead.org...htm; Mbaiwa, 1999).

Forest reserves in Botswana include the widespread potential for fuelwood extraction and a small amount of saw timber in the north-east of the country. Areas containing the particularly valuable mophane (*Colophospermum mopane)* trees spread to the north east and north west region, while morula (*Scherocarya birrer)* trees grow in the north and west. The baobab (*Adansonia digitata*) which can live to a great age with a circumference of more than thirty metres is also dominant in the north. There are several forest reserves in the Chobe district, the northern Nata state lands and the area north of the Okavango Delta. Here, limited woodland stands containing Rhodesian Teak (mkusi) (*Baikaeia plurijuga*) and mukwa (*Pterocarpus angolensis*) are found (http://www.botswana-online...htm).

Botswana's forests and woodlands represent an important natural resource in terms of providing the majority of the rural population with a wide range of benefits, entailing the supply of wood for energy, construction, building and crafts; the supply of non-wood forest products such as honey, bees-wax, fruits, medicine, fodder and habitat for wildlife and livestock, and maintaining the environmental balance. However, these resources have lately come under increasingly severe pressure form over-exploitation, and other natural phenomena such as drought and fire. The greatest challenge is to foster sustainable utilisation of these resources to ensure a continuous flow of goods and services from these forests without irreversibly

damaging their capacity to recover (Republic of Botswana National Development Plan 9, 2003).

Other plant resources of potential significance in Botswana include the grapple plant (Devils Claw) (*Harpagophytum procumbens*), in the Kalahari, used for medicinal purposes, real fan palm (*Hyphaene petersiana*), used as a raw material in craft production, and several species of thatch grass. In addition, there is also a broad range of natural plant species used for wood, medicine and raw materials (Barnes, 1993).

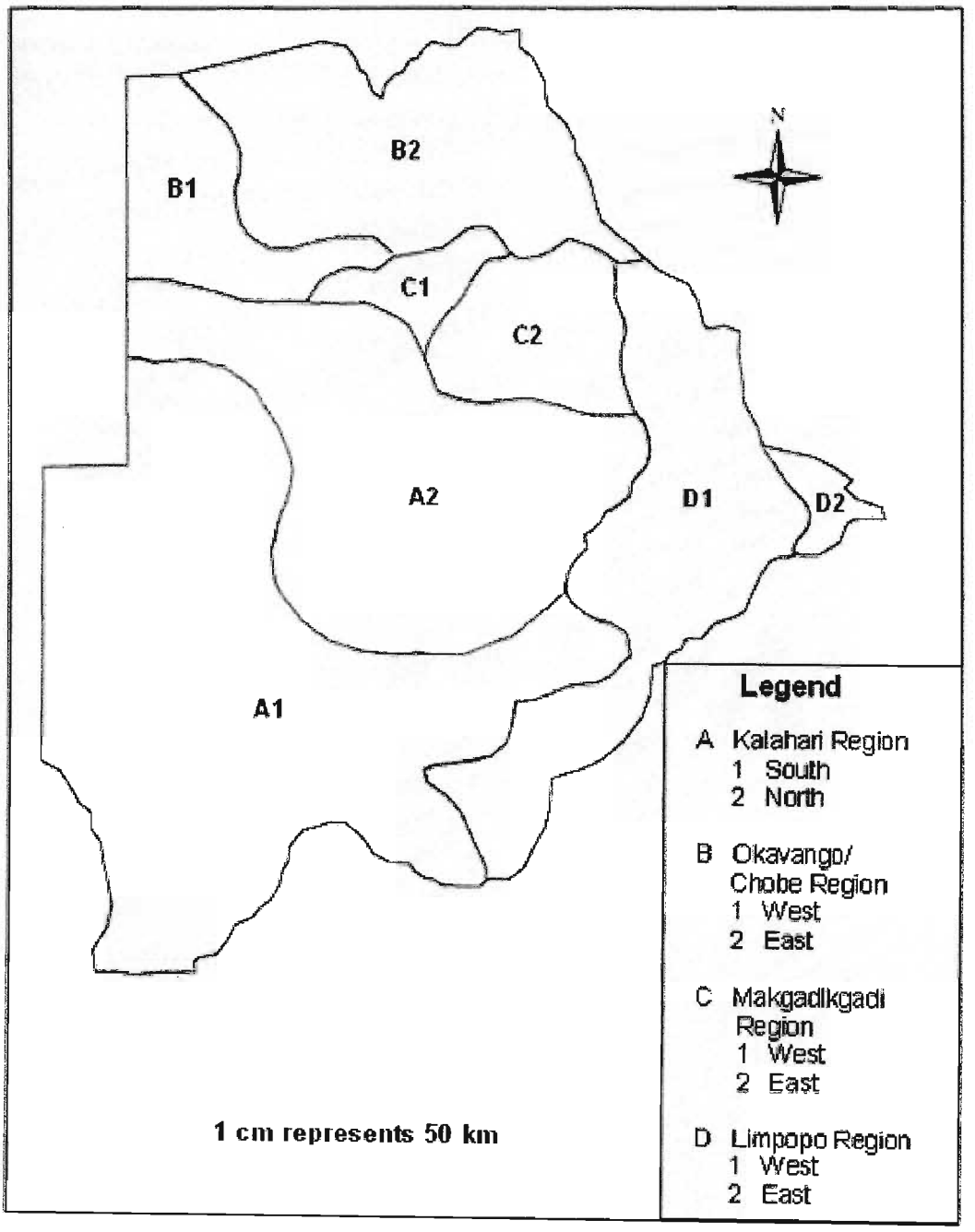
5.2.9.1 Resource Utilisation and Management with Special Reference to Wildlife

In Botswana wildlife is one of the most significant resources. The country is divided into four wildlife utilisation regions: the Kalagadi Region, representative of the south west arid biome; the Okavango-Chobe Region containing the rich fauna with Central African elements; the Makgadikgadi Region, transitional between the first two, and the Limpopo Region, containing the south east lowland fauna species (Figure 5.3). Botswana's wildlife resources tend to be concentrated in the National Parks and Game Reserves, occupying some 17 percent of the country. Surrounding these are the 11 designated Wildlife Management Areas (WMAs), in which the primary form of land use is intended to be wildlife utilisation, while there are also other small areas with leaseholds for wildlife uses. Some wildlife areas do occur on communal grazing land outside of the above mentioned areas, although little is known about their population and characteristics (Mbaiwa, 1999).

5.2.10 Tourism

According to the World Tourism Organisation, international tourism grew by an estimated 7,4 percent in 2001/02, its highest growth rate in almost a decade. Botswana's tourism industry also experienced favourable growth both in terms of arrivals and receipts during the above mentioned period (Republic of Botswana National Development Plan 9, 2003; Republic of Botswana Statistical Bulletin, 2004).

Figure 5.3: Map of Wildlife Utilisation Regions in Botswana



Source: Adapted From Mbaiwa, 1999.

Botswana affords many possibilities for tourism investment and development. The current National Development Plan (2003/04 to 2008/09), the five year plan for the economy, has identified wildlife and tourism as a key sector for economic growth and predicts that tourism will be a one billion Pula industry within the next ten years (http://www.iiasa...htm).

Tourists are attracted to Botswana by relatively unpopulated and remote wetland and thirstland environments, which support numerous and diverse wildlife populations, as well as the proximity to other Southern African attractions such as the Victoria Falls in Zimbabwe/Zambia. Government policy is to limit the density and environmental impacts of tourism through the licensing of a limited number of high-cost safari companies who have exclusive access to the wildlife areas (http://www.iiasa...htm).

The next section provides a general overview of the study site, the Okavango Delta.

5.3 Background Information on the Okavango Delta Region

5.3.1 Introduction

Owing to its isolation and history of conflict in Angola, the Okavango River Basin as a whole, and the Okavango Delta has remained remarkably unaffected by human influence. Apart from relatively small extractions in southern Angola and the Caprivi Strip in Namibia, the Okavango's hydrology is largely unaltered. As such, the Okavango Delta continues to support a healthy ecosystem with large populations of countless mammals, birds, fish and other animal species (many of which require large areas of undisturbed habitat). In addition, the Delta sustains tens of thousands of people living in surrounding villages and supports a growing tourism industry worth a reported US $ 200 million annually to the Botswana economy (Rothert, 1997).

Recent events, however, suggest that the Delta's halcyon days are waning. The Delta is an unstable and complex ecosystem, located downstream from two countries with plans to develop. More importantly, the Delta lacks the protection of a

comprehensive management plan guiding the development decisions of its upstream neighbours (Rothert, 1997).

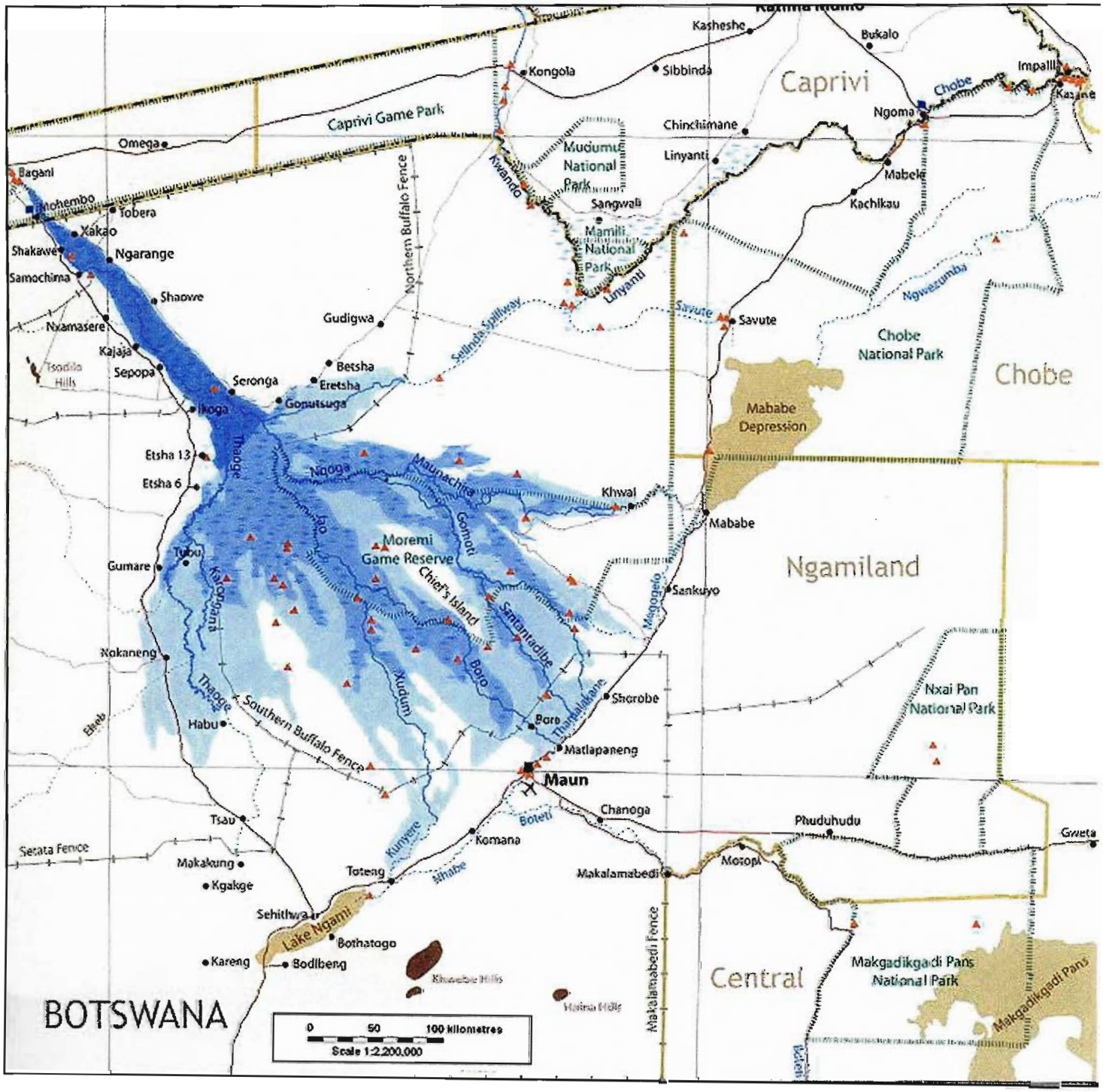
Fortunately, two recent developments offer Botswana an unprecedented opportunity to secure the future of the Delta. In 1994 the Permanent Okavango River Basin Water Commission (OKACOM) was formed by the Angolan, Namibian and Botswana Governments, and it launched a multi-year, basin-wide research and planning process in 1997, while, at the same time, Botswana inducted the Okavango Delta into the Ramsar Convention for Wetlands of International Importance. The main goal of OKACOM is to produce a comprehensive management plan for the basin, while the Ramsar Convention commits Botswana to developing a management plan for the Delta. However, these crucial mechanisms by no means guarantee that the Delta will be saved. Ensuring that the Delta is developed in a sustainable manner will require concerted effort on all levels of Botswana's society, including Delta communities, NGOs, academics, the private sector and the government (Rothert, 1997).

5.3.2 Overview of the Okavango Delta Region

The Okavango Delta is located within the Ngamiland District in northwestern Botswana, found between coordinates 18°15′S, 21°45′E and 20°45′S, 23°53′E (Figure 5.4). This district is the third largest in the country, with a total area of 109 130 square kilometers, and forms part of the international boundary between Botswana and Namibia. Both the geographic location and the physical characteristics of the district give it remote area status. Soils are generally dominated by heavy Kalahari sand, and the fluctuating waters of the Okavango swamp can make travelling within this district difficult (Ross, 1987; Republic of Botswana Environmental Statistics, 2000).

The Okavango Delta owes its origin to the Cuito and Cubango River Systems in Angola. These two main rivers originate east of Huambo on the Bie plateau in Central Angola, and flow to the south, where they form the border between Angola and Namibia. The two rivers unite to become the Kavango River in Namibia, which flows through the Caprivi Strip and enters Botswana as the Okavango River in the northwestern corner of the country, at Mohembo village. After flowing down the

Figure 5.4: The Okavango Delta in Northern Botswana



Source: Mendelsohn and el Obeid, 2004.

Panhandle, the Okavango River then branches out to form the Okavango Delta, which together with the catchment areas of these rivers, is known as the Okavango River Basin, shared by the three semi-arid countries of Angola, Namibia and Botswana (Figure 5.5). The Okavango River Basin as a whole takes up around 192 500 square kilometres and is home to about 600 000 people. It has only three 'urban' centres, namely Menongue in Angola, Rundu in Namibia, and Maun in Botswana. (Mbaiwa, 2002; Talukdar, 2003; Mendelsohn and el Obeid, 2004).

The Okavango River Basin is the fourth largest international river basin in southern Africa, and the Cubango/Kavango/Okavango is the largest river in the region that does not empty out into an ocean, and delivers roughly 9,4 cubic kilometres of water into the Delta each year (Mendelsohn and el Obeid, 2004). The main river in the catchment area is the Cubango, which rises in the southern Angolan highlands, flows southeastwards for some 650 kilometres to Namibia, where it forms the border for some 350 kilometres. The river then turns southwards and crosses the Caprivi Strip (a distance of 60 kilometres) and then flows into Botswana. The major tributary of the Cubango in Angola is the Cuito, and all water flowing into the Delta comes from the Angolan catchment, 45 percent of it down the Cuito and 55 percent along the Cubango/Kavango (Hitchcock, 2002).

The Okavango River Basin can be divided roughly into three different zones: (1) the Angolan region, which contains the numerous tributaries which feed into the river; (2) the middle section, in which the river flows in a narrow alluvial plain up to 6 kilometres wide (e.g., along the Angolan/Namibian border and across the Caprivi Strip); and (3) the so-called Panhandle region in Botswana, where the river spreads out eventually into the Okavango Delta itself, where it dissipates (Hitchcock, 2002).

The Okavango Delta itself is a 13 000 square kilometre, slightly conical alluvial fan, tectonically forced, subject to annual flooding. It is composed of a mosaic of floodplains and islands, which covers approximately three percent of the total surface land area in Botswana (Mbaiwa, 2002; Wolski *et al*, 2003).

Figure 5.5: The Okavango River Basin in Angola, Namibia and Botswana

Source: Mendelsohn and el Obeid, 2004.

The Okavango Delta is surrounded by Kalahari Desert savannah, and is recognized as one of the world's largest inland deltas (Ross, 1987). However, not all of the 13 000 square kilometres is a flooded 'swamp'. The Delta fluctuates in size as a result of a complex relationship involving an annual flood from Angola and local rainfall events. In the current climate regime, and during the driest time of the yearly cycle, the perennially flooded part of the Delta will amount to only an estimated 6 000 square kilometers. At the height of the flood as much as 13 000 square kilometers may be inundated, and there is geomorphologic evidence which suggests that in the past, the Delta may have been as large as 22 000 square kilometers (http://www.places.co.za).

The Okavango Delta is the last surviving remnant of the great Lake Makgadikgadi, whose waters and swamps once covered much of the middle Kalahari. It is also closely connected with the Kwando-Linyanti-Chobe swamps and river systems to the northeast. It is thought that in the past the Okavango, Chobe, Kwando and upper Zambezi waterways flowed as one massive river across the middle Kalahari, to join the Limpopo River and then flow to the Indian Ocean. The flow of this river was later impeded by tectonic movements in the earth's crust causing a damming back of the giant river which resulted in the formation of a series of huge and complex swamps (Ross, 1987). As the Okavango River left the humid highlands of southern Angola, and entered the arid, extreme flatness of the Kalahari, it slowed and deposited its sediment load (http://www.icun.org...html ; Ross, 1987; Hitchcock, 2000). As a result, channels became blocked and the water sought other courses, continuing to drop its sediments wherever it traveled. Over time, around two million tons of sand and debris were deposited over the Kalahari, creating the characteristic fan shape of the Delta. The Okavango's waters still cut paths through these deposits, and drop their sand load, causing the channels to continue changing direction (Ross, 1987).

Two parallel faults now determine the direction in which the Okavango River enters the Kalahari Basin, in an area in the northern part of the Delta called the Panhandle (Ross, 1987; Hitchcock, 2000). Here there is still enough of an elevation change that the water fans out for only fourteen kilometers. This area contains immense 'islands' of densely packed papyrus and reeds. On either side of the Panhandle, Kalahari Desert savannah extends for hundreds of kilometres. Further south the narrow Panhandle gives way to the Delta, which spreads out for over a hundred kilometres

to the south, east and west (Ross, 1987; Hitchcock, 2000). This area is a patchwork of swampy land and islands, with a rich diversity of mammals and birds. Central to this ecosystem is the annual flood which brings water with nourishment to the Delta. The summer rains in Angola bring a flood in the winter months (June to September). The flood makes travel for both people and wildlife difficult, and the islands become surrounded by water. Once the flood recedes, the area can become quiet dry, the formerly riverine floodplains becoming grassy plains. In many ways this flood determines the lifecycle, not only for the animals and plants, but also for the people of the Delta (Bock and Johnson, 2002).

5.3.2.1 Climate

The Ngamiland district experiences a semi-arid to arid climate. The presence of a southern sub-tropical high-pressure belt influences the climate, causing a large-scale downward movement of air. Convectional rainfall is common in the area, which, like elsewhere in Botswana, is erratic. Annual rainfall levels vary from 450 millimetres to 660 millimetres in the Ngamiland district and tend to occur during the months of November to March. The southward movement of the Inter Tropical Convergence Zone (ITCZ) also adds to the relatively high rainfall amounts in the area – in comparison to the rainfall levels throughout the rest of Botswana. Maun receives an average of 545 millimetres of rainfall annually. The average minimum temperatures vary from 15 degrees Celsius to 20 degrees Celsius for winter and summer months, respectively. Maximum temperatures range from 25 degrees Celsius to 34 degrees Celsius, with peaks in October to November (Makhwaje *et al,* 1995; Ndubano, 2000).

5.3.3 Natural Resources in the Okavango Delta

The Okavango Delta in itself, is described as an important natural resource, as it supports a thriving eco-tourism industry based on its scenic beauty, water and wildlife. As such, it also embraces a variety of other natural resources, upon which many of the inhabitants of this area rely. These include the vegetation, soils, fish, wildlife, veldt products and wild foods, and water. Like other wetlands in the world, it also provides good breeding areas for wildlife, birds, amphibians, aquatic mammals and fish (Mbaiwa, 1999; Mbaiwa, 2002).

The blend between aquatic and terrestrial life is greatly varied because the Basin as a whole covers a wide range of environmental conditions that have a major impact on the nature of living organisms. In the northern catchment, the rivers are narrow lines that carve their way through large expanses of woodland. Higher rainfall in this region means that the woodlands are evergreen and semi-tropical, while further south, the rivers are wider, often with broad margins of floodplains beyond which there are drier, deciduous woodlands. A variety of specialised organisms inhabit the floodplains which become more prominent in the Delta where there are more nutrients, and swamps and seasonally inundated habitats predominate. Most soils around the Delta were formed during more extensive flooding in wetter time periods and these soils support different vegetation communities that add yet another component to the Basin's natural wealth. In fact, it is all these dimensions and components that contribute to the diversity of the river system and its Delta and that affect the lives of people in determining what resources are available for their use (Mendelsohn and el Obeid, 2004).

5.3.3.1 Fish Resources

The very first people who came to settle along the Okavango's waterways must have found fish a welcome addition to their diets. To this day fish remains a significant feature in the lives of many people in the Delta, who fish for food or earn incomes by selling their catches or providing fishing trips for tourists. A total of 83 different species of fish have been identified in the Okavango Delta and Panhandle region of Botswana (Mendelsohn and el Obeid, 2004).

Despite there being over 80 species present in the Okavango, any one stretch of the river or area of the Delta is usually only occupied by 15 to 30 species and these are generally dominated by four or five species that outnumber or outweigh all the others. Fish communities in the Okavango are broadly divided along two dimensions. Firstly, food preferences and specialisations separate different species into detritivores that eat tiny food particles in the water, herbivores that feed on plant material, and predators of other fish. A second level divides them into habitats, with different fish preferring the mainstream, rocky areas and rapids, backwaters, permanent swamps and the floodplains (Mendelsohn and el Obeid, 2004).

Fish populations in the entire Okavango River Basin are much smaller than in many other freshwater systems. This is primarily due to the river water's low nutrient levels which, means that there are fewer algae and planktonic plants that would normally provide an abundance of food for fish in richer waters. Fish biomass is extremely variable from one habitat to another but an average of approximately 120 kilograms of fish per hectare is probably a reasonable estimate of fish stocks in the Panhandle, while much of the Delta supports an average of between 100 and 200 kilograms of fish per hectare. Fish stocks in most other healthy river systems and floodplains are two to four times higher (Mendelsohn and el Obeid, 2004).

Fish stocks in the Okavango Delta are generally thought to be in good health, and fish populations are generally not over utilised. The number of people catching fish in the Delta is less than half the total on the Kavango River in the Caprivi Strip, and large areas of the Delta are simply not accessible to fishermen. It is also likely, however, that the succession of years with relatively low flows over the past two decades has had a substantial effect on fish numbers. With smaller floods and floodplains remaining inundated for shorter periods, fewer fish would have produced eggs and the survival rates of fish fry would have dropped. This relationship between fish yields and flood levels has been established in many African wetlands, but more research is needed to understand the impacts of human fishing pressures and patterns of flooding on fish populations in the Okavango (Mendelsohn and el Obeid, 2004).

5.3.3.2 Soil Resources

In one form or another, soils are important to all life in the Delta, and the Okavango River Basin as a whole. They provide the medium from which plants obtain water and nutrients, and the properties of the soils determine what plant species are present and hence the value and diversity of vegetation communities. Soil properties differ in terms of their depth, structure and chemical composition, and these impact upon the amount of water soils retain, the depth to which roots extend, and what nutrients are available. These factors are particularly relevant to crop cultivation, and the generally poor quality of soils in the Okavango region has major impacts on the types of crops grown and their yields (Mendelsohn and el Obeid, 2004).

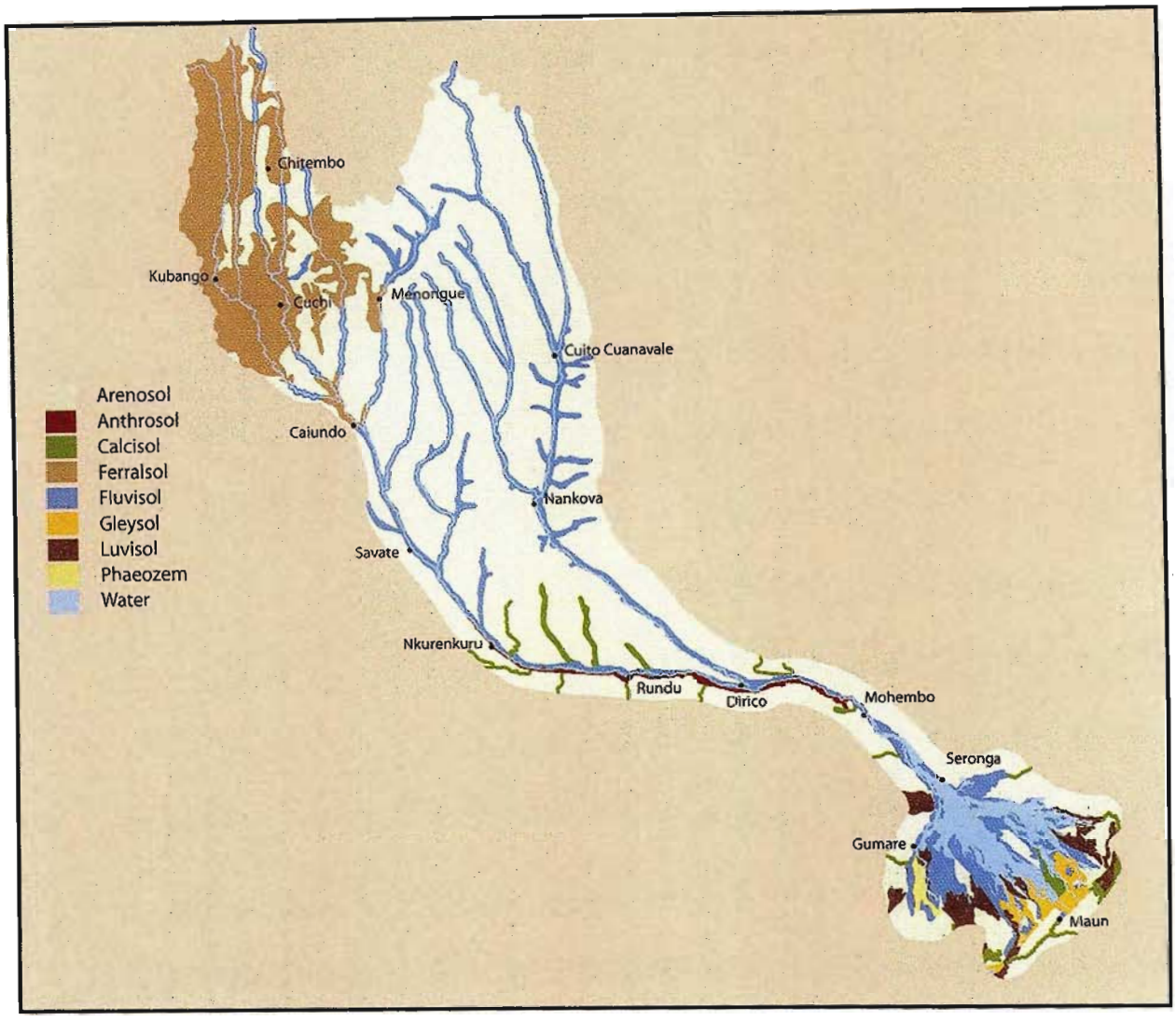
A further significant impact of soils in the region is on the quality of the water. Compared to most other rivers, the waters of the Okavango contain exceptionally small amounts of mud and dissolved chemicals or minerals. The main reason for this clarity and purity is that most of the water in the system filters out of sandy soils consisting largely of quartz grains. These do not easily dissolve or break-up to release soluble chemicals or tiny particles that would otherwise be washed in the river as minerals and mud. The sands also serve to control the flow of water since most rainwater sinks into the ground rather than running off the surface and into the tributaries of the major rivers. Flows are therefore much more even than those along rivers that drain rocky areas. Within the catchment, the effects of sand in producing clean and steady flows are more pronounced in the sandiest areas, especially in the Cuito sub-Basin. Flows off basement rocks in the hillier Cubango sub-Basin are more variable and most of the nutrients and sediments that find their way into the Okavango Delta tend to come from this western area (Mendelsohn and el Obeid, 2004).

The map of soils (Figure 5.6) provides a basic perspective on how soils vary across the Okavango River Basin. The fine to medium grained sands that are present in so much of the Basin are more generally known as Kalahari sands. These sands generally extend to a depth of at least one metre, but may be up to 300 metres deep in some areas overlying older consolidated sedimentary rocks of the Karoo Age (Mbaiwa, 2002). Sand grains generally make up more than 70 percent of the body of the soil, with less than 10 percent consisting of clay and silt. There are few nutrients (especially nitrogen, potassium and phosphorous) in the sand and the porous structure results in little runoff or water erosion. As such, water drains rapidly through the body of soil leaving little moisture at depths to which most plant roots can reach (Mendelsohn and el Obeid, 2004).

5.3.3.3 Vegetation Resources

The character of the Okavango Delta probably owes more to its flora than to any other single element as without the influence of its vegetation the region would probably amount to little more than a vast salt lake (Bailey, 1998). The vegetation of the Okavango is not simply a passive spectator to the passing of the seasons. On the contrary, it is an active player in shaping the Delta. The plants, or more correctly,

Figure 5.6: Soils in the Okavango River Basin



Source: Mendelsohn and el Obeid, 2004.

plant communities, fulfil two primary functions. Firstly, they regulate the dispersal of water, and hence of sediment through the Delta, and secondly, they are responsible for water disposal and management of the consequent accumulation of salts (McCarthy, 2003).

There are two broad categories of plant communities in the Okavango River basin as a whole. These are aquatic plants associated with the river water and valleys, and terrestrial communities that surround, and are independent of, the river system. The composition and growth of aquatic plants varies in response to features of water flow, flooding and nutrient levels. Plants are generally not able to establish

themselves in the main stream of the river where the flow is strongest. Tall reeds and papyrus can grow in deeper water, while grasses and sedges are only present in shallower fringe zones that are flooded sporadically. The deep water reeds and papyrus are able to grow so tall because they have first and best access to nutrients carried down the main channel, whereas the growth of plants further back from this supply of nutrients is less vigorous (Mendelsohn and el Obeid, 2004).

There are two primary factors that have an over-riding impact on terrestrial plants. These are soil characteristics and rainfall. Most of the entire Okavango region is covered by Kalahari sand on which several species grow abundantly. They dominate the sands and form plant communities that are quiet different from those on lower-lying, more clayey soils that often contain more nutrients and retain more water than does the sand (Mendelsohn and el Obeid, 2004).

5.3.3.4 Wildlife Resources

The Okavango Delta and its surrounding areas support a remarkable number and diversity of life forms, among them 164 species of mammal, more than 400 of bird, 157 of reptile, 84 kinds of fish and over 5000 of insect. However, the Delta is still not considered a prime wildlife region. The apparent lushness of the terrain is misleading; as it is part of the wider Kalahari system, the soils are sandy, poor in nutrients; the plant communities are not as productive as one might expect; and the carrying capacity of the grasslands is much lower than that of such wildlife havens as, for example, the Serengeti-Mara area of East Africa. Additionally, hunting and various forms of commercial exploitation – including cattle expansion and misguided attempts to eradicate the tsetse fly – have exerted heavy pressure on the already fragile environment. It is only in the Moremi Game Reserve, a largely dryland area, do the game populations reach densities comparable to those of Africa's major sanctuaries (Bailey, 1998).

Even though the Okavango Delta does not compare to other East-African wildlife areas, it does contain large numbers of wildlife. Various surveys over the past ten years have produced estimated population figures of between 160 000 and 260 000 for large mammals in the Delta. Compared with the Panhandle area, the Permanent Delta supports relatively high densities of wildlife. The animals here generally keep

to the Delta's many islands, some of which are home to quiet high concentrations of game. Most species typical of the wider region are represented, notably hippopotamus, crocodile, lechwe and sitatunga, and most of the larger mammals, including predators such as lion and leopard, move regularly between islands. In fact, the relative wealth of wildlife in and around the Delta stands in great contrast to the small numbers elsewhere in the Okavango River Basin. The only area along the Kavango River in the Caprivi Strip with reasonable numbers of wildlife is the Mahango Game Reserve, a tiny area of 250 square kilometres which contains around 2000 large mammals. Elsewhere, in the remaining densely settled area of the Kavango River in the Caprivi, just a few hippopotamus and crocodile remain.

5.3.4 Land Use in the Ngamiland District

The development of tourism in the Okavango Delta has led to changes in land use in the area. There are two main types of land tenure in the Ngamiland district. These are communal and state land tenure systems. Within both types, there are designated land use areas like Wildlife Management Areas (WMAs), Game Reserves and National Parks, and other general land use areas such as settlements, communal grazing areas and arable areas. As Ngamiland is endowed with natural resources such as substantial wildlife populations and the Okavango Delta, wildlife conservation and tourism are two of the more significant land use activities in this region. There is no significant freehold land in the district. The amount of land allocated under the two major tenure systems in the Ngamiland district also changed between 1974 and 1995. The share of total land area that fell under the communal land tenure system dropped from 100 677 square kilometres (92,3 percent of total district land area) in 1974, to 99 399 square kilometres (91,1 percent) in 1981. There was a further drop to 66 532 square kilometres (61 percent of total district land area) by the end of 1995. State land in the district increased from 8 453 square kilometres (7,7 percent of total district land area) in 1974 to 9 731 square kilometres (8,9 percent) in 1981. There was a further increase to 42 598 square kilometres (39 percent of total district land area) by the end of 1995. Therefore, a total of 31,3 percent of total land area in the Ngamiland district was re-allocated from communal land to state land, predominantly for use as Wildlife Management Areas (WMAs) (Republic of Botswana Environmental Statistics, 2000; Mbaiwa, 2002).

Presently in the Ngamiland district, pastoral, arable and residential areas, which fall under communal land make up 60 072 square kilometres or 55 percent of total land area. National parks make up 3 900 square kilometres or 3,5 percent, and game reserves make up a further 5 560 square kilometres or 5,1 percent of total land area in the district. Wildlife Management Areas (WMAs) make up 32 867 square kilometres or 30,1 percent of total district land area. All three of these land uses fall under state land tenure (Republic of Botswana Environmental Statistics, 2000).

There are three major uses of land in the Ngamiland District. These include wildlife utilisation and management, livestock production and subsistence crop production. Most of the livestock in this district is kept under communal grazing systems, which generally utilises the land around villages, most of which lies to the north-west of the Okavango Delta. Wildlife Management Areas (WMAs) take up most of the land within the Delta itself, which is both a major hunting and tourism area in the region. There are also game reserves and national parks, such as the Moremi Game Reserve. Subsistence crop production in the Ngamiland District takes the form of rainfed or dryland crop production, and Molapo or floodplain agriculture. Molapo crop production is practised mainly along the Okavango River in the Panhandle area and the Thamalakane River near Maun. This system combines the use of flood moisture left behind in the alluvial deposits in river beds once the annual flood has subsided, and rainfall during the summer months. Most crop lands under the molapo system are smaller than those under dryland or rainfed production, with most farmers having fields in both the dryland and molapo systems. Dryland or rainfed agriculture relies solely on rainfall and is practised away from the river banks and floodplains (Makhwaje *et al,* 1995).

5.3.5 Socio-Economic Profile of Ngamiland District

5.3.5.1 Population

According to the 2001 National Population and Housing Census, the population of the Ngamiland District increased by 24 percent from an estimated 92 192 people in 1991 to 122 024 persons in 2001. Some 35,8 percent (43 776) of this population lives in Maun, whose population increased by 38,9 percent from 26 768 in 1991 to its present size. Maun has an annual growth rate of approximately six percent. In the

Okavango Delta region, 44 000 people are rural dwellers, while another 44 000 (50 percent) live in the more urban centres. These include the towns of Maun, Gumare, Etsha 6, Mohembo, Nxamasere, Sepopa, Nokaneng, Seronga and Shakawe (Figure 5.4) (Republic of Botswana Population of Towns, Villages and Associated Localities, 2001; Republic of Botswana Statistical Bulletin, 2004).

5.3.5.2 Employment

According to the Botswana Demography Survey (1998), the major source of employment in the Ngamiland district is administrative work (31 percent), followed by agriculture (17 percent) and wholesale and retail trade (8 percent). Employment in hotels and restaurants makes up a further six percent of the economically active population. An estimated 46 000 people are economically active in the Ngamiland district, with some 33 000 people employed in formal sector work. An estimated 12 247 people are unemployed in this district with the majority of them consisting of males and females in the age group of 19 to 29 years (Republic of Botswana Demography Survey, 1998). According to the Botswana Statistical Bulletin (2001), there are only an estimated 6 000 paid employees in the agricultural sector throughout Botswana, even though up to 44 percent of the economically active population in Botswana are engaged in agriculture.

5.3.5.3 Income

The average monthly cash earnings for work in the agricultural sector in the Ngamiland district for Botswana citizens is 405 Pula. Employment in the hotel and restaurant sector pays an average monthly wage of 766 Pula (2001 estimates). Both these figures are higher than the national minimum monthly wage of 270 Pula (Republic of Botswana Statistical Bulletin, 2001). The average monthly household income for the Ngamiland district are 731 Pula for urban towns, such as Maun and Shakawe, and 441 Pula for rural areas and villages (Africa Contemporary Record, 2000).

The most common sources of income in the Ngamiland region include livestock and crop sales, the sale of veld products, the collection of drought relief from the government, fishing, working in the tourism sector, the selling of goods as a street

vendor, retailing, the production of school uniforms, the sale of wildlife meat and products, basketry and the brewing of beer (Makhwaje *et al,* 1995).

5.3.5.4 Social Services

Ngamiland District has a relatively good network of health facilities and schools, and most people within the region have access to these services. Within 20 kilometres of the river or Delta, there are 15 health posts, six clinics and three hospitals, as well as 37 primary and 12 secondary schools in the district. Until quite recently, the road network for the entire Ngamiland District was poor, but with the tarmacking of the Francistown/Maun, Ghanzi, Nata/Kasane and Maun/Shakawe roads, the region has become greatly more accessible. Most villages within Ngamiland are serviced by reasonably good gravel or sand track roads. However, roads to the east of the Delta are still very sandy and heavily corrugated, making travel slow and difficult (Makhwaje *et al*, 1995; Mendelsohn and el Obeid, 2004).

There are different diseases and other health problems that affect people in the Okavango Delta region, and the Basin as a whole. The most important are malaria, HIV/AIDS, acute respiratory infections, diarrhoea, scabies, tuberculosis, malnutrition and bilharzia. Most of these are directly or indirectly associated with the rural and sub-tropical environment that characterises much of the river-system. Out of every 1000 live births in Ngamiland, between 59 and 85 infants die within their first year (Mendelsohn and el Obeid, 2004).

One of the greatest threats facing the Okavango Delta peoples is HIV/AIDS. In 1998, the HIV/AIDS infection rate in the Delta was estimated to be between 25 to 40 percent of adults, which is one of the highest in the world. Over 90 percent of hospital deaths was due to HIV/AIDS related illnesses. Various factors common to the African HIV/AIDS epidemic contribute to this high rate. These include a longstanding, high rate of sexually transmitted disease infections and high levels of multi-partnered sexuality. Infrastructure improvements in transportation which occurred throughout the 1990s have also contributed to the huge rate of transmission. In 1990 there were only a few kilometres of tarred roads in northern Botswana, while today there are well over a thousand kilometres and many more of improved gravel roads. As a result of this, formerly remote and difficult to reach

villages have become easy to visit. Tourists, merchants, and truckers all use these roads, and some of them bring HIV. In addition, the improved transportation network means that people travel from remote villages to large towns, such as the capital city Gaborone and even Johannesburg, to work, attend school, or to purchase consumer goods, and once again, this can provide a means of rapid increase in HIV/AIDS infection in the area (Bock and Johnson, 2002).

The development of the tourism industry in the Okavango Delta since the 1980s has also helped increase the spread of HIV/AIDS. Previously inaccessible parts now have thousands of tourists visiting them each year, and small planes constantly travel between bush camps and the town of Maun providing another vector for HIV. Although the Botswana government has an extensive AIDS education and health care plan in place, it has not been able to keep up with the dramatic increase in the rate of infection in the Okavango Delta due to the improved transportation network (Bock and Johnson, 2002).

The Okavango Delta is one of the most remote and least developed areas of Botswana and is perhaps least able to handle the AIDS disaster. Among the people of the Delta, traditional ways of life and extended families are already under great pressure and the HIV/AIDS epidemic adds a further burden (Bock and Johnson, 2002).

5.3.6 Agriculture in the Okavango Delta Region

There are two distinct crop production systems practised by the inhabitants of the Okavango Delta region. These are the dryland and Molapo cropping systems. The Molapo system involves planting crops within the moist Okavango Delta river beds and flood plains during the drier months and utilises the sediment deposited during the wet season. The dryland system involves planting crops further inland and is solely dependent upon rainfall. Within the Molapo system, ploughing and planting are generally undertaken between August and October, and are usually done by hand. Within the dryland system, ploughing and planting are generally undertaken between November and January and are usually done by using a team of four to six donkeys, or sometimes oxen. The most common planting method used by both cropping systems is the broadcasting system. Other planting methods include hilling,

third furrow planting and mechanical row planting. Mixed cropping is generally undertaken, with the most common mixture being that of cereals and cowpeas, melons and sweet sorghum (Makhwaje *et al,* 1995).

The principal crops grown in the Delta region include sorghum, maize and millet. The secondary crops include cowpeas, groundnuts, melons, pumpkins, sweet sorghum, courgettes, gourds and jugobeans. Sorghum is generally grown in the eastern edge of the Delta and maize in the west. In the lower Delta, near Maun, maize was the predominant crop grown within the Molapo farming system. However, there has been a shift to sorghum due to unreliability of flooding in this lower region, which is essential in providing adequate moisture for the production of maize. Higher up in the Delta and the Panhandle region, maize is still the predominant crop grown using the Molapo system, while millet and sorghum are grown within the dryland farming system (Makhwaje *et al,* 1995).

The average size of cropping areas in the Okavango Delta region range between 0,5 to 16 hectares. Dryland cropping areas generally range between 0,5 to 6 hectares in size. The most common crop management practices undertaken within the region include weeding, bird scaring, which is generally a female activity, with limited help from the men, and wildlife scaring, which is generally done at night and is solely a male activity (Makhwaje *et al,* 1995).

In the Okavango Delta region, crop yields tend to be higher from the Molapo system than the dryland farming system. This is generally due to the soils along and within the river beds and floodplains being more fertile and moist from the annual flooding. However, actual yields are not easy to measure per hectare due to the unreliability of farming in this region. The estimates, represented in Table 5.3 are, however, accepted as average annual yields per household.

Table 5.3: Crop Production Estimates by Farming System in Ngamiland District (70kg bags/household)

Crop	Dryland	Molapo
Maize	1 – 3	3 – 10
Sorghum	1 – 6	2 – 6
Millet	1 – 8	-
Cowpeas	0 – 5	-

Source: Makhwaje *et al,* 1995, p.25.

Most of the harvest is used for home consumption but in some cases it is also used for trade and bartering. Much of the maize and sorghum yields are used for the brewing of beer, making porridge and occasionally sold to the Botswana Agricultural Marketing Board (BAMB) or other farmers. Secondary crops such as groundnuts and melons are used for both home consumption and sold (Makhwaje *et al,* 1995).

5.3.6.1 Agricultural Production Constraints

In the Okavango Delta region, the major problem faced by farmers regarding the production of crops is low yields. These low yields are the result of a number of production constraints. Low rainfall levels are generally stated as the major constraint, especially within the dryland farming system. In the Molapo system the growth of weeds is the major constraint facing farmers. Damage caused by birds, although cited as a cause of yield losses, is more pronounced in the dryland farming system due to sorghum and millet being the main crops grown there. Poor soil fertility is also a problem generally associated with the dryland farming system. Within the Molapo and dryland farming systems, damage to crops caused by wildlife such as elephants and antelope is often experienced. Elephants tend to damage fences allowing smaller animals to gain access to agricultural fields (Makhwaje *et al,* 1995).

5.3.6.2 Horticultural Crops

In the Okavango Delta and Ngamiland district as a whole, horticultural production is very limited. There is a large horticultural project in Seronga, owned by a local

farmer who supplies crops to the village and community junior secondary school. There are also several small-scale horticultural projects concentrated in and around Maun. The types of crops grown include cabbage, tomatoes, spinach, rape, onions, green peppers and egg plants. Fruit trees such as citrus and paw paws are also grown. The average crop production sites range between 0,4 to 15 hectares in size. The most common problems encountered in horticultural production in the area are low yields caused by pests, disease, inadequate supplies of water for irrigation and the high costs associated with this type of crop production (Makhwaje *et al,* 1995).

Other production constraints, as stated by local farmers, include the drying up of rivers in the Delta. Rivers in the area are the main source of irrigation for horticultural production. However, due to a gradual shift in the gradient of the land in the Delta area, and the 'channel switching' nature of the Okavango system, the annual flooding is no longer as reliable in some areas as it was in the past. A lack of reliable seeds and the supply of pesticides is also a problem, as well as the lack of markets in the area in which produce can be sold. This further restricts production levels as the produce is perishable and the large scale cultivation of crops requires a reliable market (Makhwaje *et al,* 1995).

5.3.6.3 Livestock Production

The most common types of livestock kept by the residents of the Okavango Delta region include cattle, goats, sheep, donkeys, horses and chickens. A relatively limited number of sheep is kept by households in the Delta because mutton is not particularly favoured for consumption (Makhwaje *et al,* 1995).

The Tswana cattle breed is most common in the Okavango Delta region. Other cattle breeds include crossbreeds of Brahman, Simmental, Afrikaner, Bonsmara and Tuli. Goats, sheep, donkeys, horses and chickens are generally of the Tswana breed (Makhwaje *et al,* 1995).

Most of the animals in the Okavango Delta region are kept under the communal grazing system. Management practices within the communal grazing system include herding and kraaling, watering of the animals at local water points such as boreholes

during the dry season, and to a limited extent the production of fodder which is used during the dry season (Makhwaje *et al,* 1995).

5.3.6.4 Disease and Mortality

The Ngamiland district as a whole has several potentially devastating diseases. These include Contagious Bovine Pleuropneumonia (CBPP), Foot and Mouth Disease, Pasteurellosis, Botulism and Gall Sickness. Internal parasites such as liver flukes and wireworms are also problematic in the Delta. Predation is also a major problem in the region as grazing areas are surrounded by WMAs and game reserves. Some of the more common predators include lions, hyenas, leopards, cheetahs and jackals. Snakebites also cause livestock loss, but to a lesser degree (Makhwaje *et al,* 1995).

5.3.7 Tourism in the Okavango Delta Region

Nature-based eco tourism dominates the Okavango Delta region. The Ngamiland district is the centre for the tourism and hunting industry in Botswana. As such, wilderness and wildlife based tourism and subsistence farming are the major economic activities in the area (Leinaeng, 1989). In the Okavango Delta region, tourism activities are largely based on the commercial utilisation of wildlife and other natural resources. Such activities can be broadly divided into two main groups, namely consumptive and non-consumptive resource uses (Mbaiwa, 2002).

Consumptive natural resource utilisation within the tourism industry in the Okavango Delta region involves the processes of wildlife off-take such as sport or trophy hunting, game farming, live capture and export of live animals or translocation, and taxidermy and trophy processing. It also involves commercial and sports fishing. Due to the significant numbers of wildlife in the Okavango Delta region, consumptive wildlife utilisation has generally taken the form of hunting tourism safaris. Safari hunting is done outside of protected areas in Controlled Hunting Areas (CHAs) or in concession areas. Several hunting companies, mostly based outside of Botswana, but with offices in Maun, operate the hunting safari industry in this region (Mbaiwa, 2002).

Unlike consumptive resource utilisation, non-consumptive tourism does not involve wildlife off-take. The Okavango Delta is one of the major areas in Botswana where wildlife resources are important for scientific, educational and recreational purposes. Apart from hunting, wildlife use in the Okavango Delta is mostly associated with photographic tourism. This form of tourism involves activities such as photographic safaris, game drives, boat safaris, walking safaris and elephant and horse riding safaris through the Delta. Photographic tourism is especially important in the Moremi Game Reserve, as wildlife-based or eco tourism is the only type of land use allowed in this area (Mbaiwa, 2002).

The next section provides an overview of the history of, and the institutional and policy framework in, tourism and natural resource management in the Okavango Delta Region.

5.4 History of Tourism and Natural Resource Management in Botswana and the Okavango Delta

The approach to natural resource management and in particular, wildlife conservation in Botswana, as in many other countries in Africa, was inherited from colonialists, in which the interests and welfare of local communities living in the wildlife areas were of no effect or consequence. It is of little surprise, therefore, that communities living adjacent to conservation areas resented these wildlife institutions and feel alienated from conservation in general. This conservation trend, following the publication of the World Conservation Strategy in 1980, has changed, with a move towards integrating and reconciling local community needs and conservation practices (http://www.iwmc...htm).

5.4.1 Historical Development of Natural Resource Management in the Okavango Delta Region

5.4.1.1 Traditional Inhabitants of the Okavango Delta

Until quite recently the whole Okavango River System was isolated, unknown to most people in the world and also to most citizens of Angola, Namibia and

Botswana. Only certain people travelled there: those pushed away from their homes in other parts of southern Africa, explorers such as Serpa Pinto and David Livingstone and traders in search of slaves and ivory. The area was sparsely populated, partly for reasons of disease, warfare and slavery. Leadership systems were generally weak, and most inhabitants of the area are descendants of groups that moved into the Basin quiet recently. Outsiders either ignored or neglected the area, much of which was called the '*as terra do firm do Mundo*' – the place at the end of the earth (Mendelsohn and el Obeid, 2004).

Even though the Okavango was remote and neglected for much of human history, some people inhabited the Basin for hundreds of thousands of years. The earliest conclusive indication of human life comes in the form of stone tools found at several places. These all date from the Early to Middle Stone Ages, produced between at least 200 000 up to 35 000 years ago. Climatic conditions during the past were often quiet different from those of today, and patterns of settlement changed accordingly, with people being more widely distributed during wetter periods and then more concentrated near river water in arid phases (Mendelsohn and el Obeid, 2004).

Livelihoods during this past period, were based on hunting, fishing and gathering, and most researchers agree that people living during the more recent Late Stone Age would have been so-called Khoesan people. Some Khoesan remained as hunter-gatherers, who were the ancestors of modern San people, but others switched to livestock farming. Farming may have began in the Okavango as long as 2000 years ago after Bantu farmers arrived in southern Africa from east and west Africa. The remains of livestock, crops and pots used to store grain at these sites are often accompanied by evidence of iron workings, which too was an innovation brought south by Bantu immigrants. Glass beads, copper and cowry shells indicate that the inhabitants of the Okavango then had widespread trading contacts across much of southern Africa (Mendelsohn and el Obeid, 2004).

The very first of the Okavango Delta's modern-day inhabitants were San or Bushmen (known locally as Basarwa). Most were hunter-gatherers, but some of these original settlers, a group called the Banoka (or river Bushmen), which later gave rise to the Xanekwe and Bugakwe groups, chose to live along the region's waterways where they turned to fishing for their livelihood. Originally confined to the

southern edge of the Delta, the Boteti River and Lake Xau, they gradually spread through the region following the channels on foot. They constructed reed rafts for fishing in the lagoons but these crafts were not suitable for actually travelling across the water, and it was not until later immigrants introduced ferrous technology to the Delta that the Banoka began to use the region's now-traditional dugout canoe – the mekoro (Bailey, 1998).

Other inhabitants of the Okavango Delta and Basin as a whole belonged to groups that moved here during the past few hundred years (Bock, 1998). The first migration wave of modern Bantu-speaking people into the Delta region occurred approximately 250 years ago and marked the start of a series of movements by various groups in the region. Since then, the salient feature of Botswana's population has been its fluidity: communities broke apart and joined others over the years, fragmenting or moving on when pressures from within the tribe or from other, stronger groups became too great, and poorer groups at times became absorbed into richer communities, some making their own cultural or linguistic mark on their host societies (Bailey, 1998).

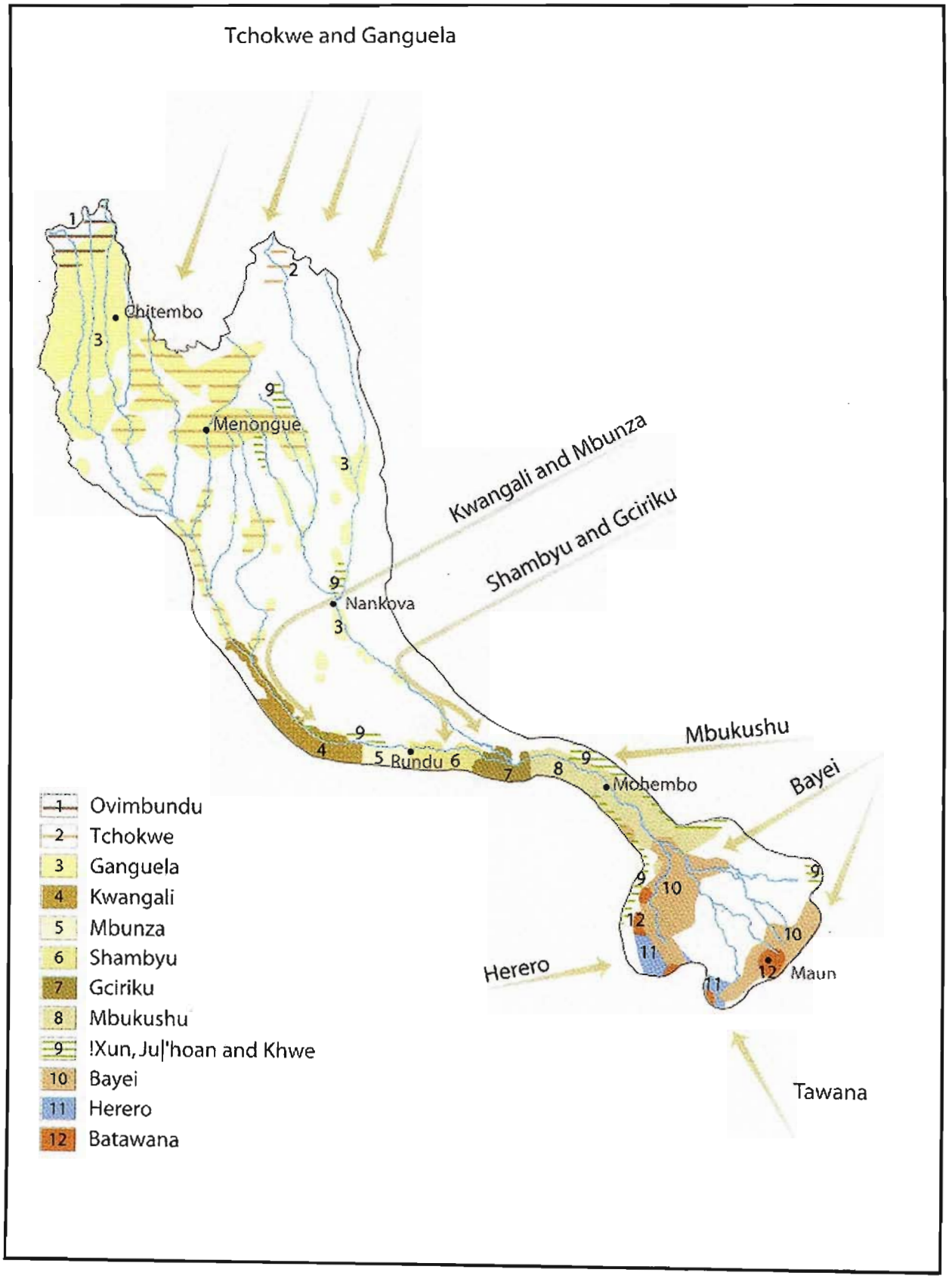
As such, with regard to the 'modern day' inhabitants, dating back to around 200 years ago, the Okavango Delta was traditionally home to five separate ethnic groups, each with its own identity and language. They are the Hambukushu/Mbukushu; Dxeriku/Gciriku; Wayeyi/Bayei; Bugakwe and Xanekwe (!Xun, Ju/'hoan and Khwe or River Bushmen). The Hambukushu, Dxeriku and Wayeyi are all Bantu peoples who speak distantly related Central Bantu languages. This suggests that the Dxeriku, Hambukushu and Wayeyi are more recent inhabitants of the area, having separately migrated from central Africa several hundred years ago (Bock and Johnson, 2002). They have traditionally engaged in mixed economies of millet/sorghum agriculture, fishing, hunting and the collection of wild plant foods and pastoralism. The Bugakwe and Xanekwe are the descendants of San or Bushmen people who have traditionally practiced fishing, hunting and the collection of wild plant foods. The Bugakwe utilised both forest and riverine resources while the Xanekwe mostly focused on riverine resources (Bock, 1998).

Members of all of these ethnic groups live outside of Botswana as well. Bugakwe, Hambukushu and Dxeriku live in the Caprivi Strip in Namibia and the catchment

area in Angola. There are also Hambukushu people in southwestern Zambia. Some Xanekwe and Wayeyi people also live in northern Namibia. Today, people from all five ethnic groups live throughout the Okavango Delta. Historically though, Bugakwe, Dxeriku and Hambukushu lived in the Panhandle and eastern edge of the Delta (Tlou, 1985; Barnard, 1992). The Xanekwe lived in the Panhandle and along the Jao and Boro Rivers in the central and western Delta, as well as the area along the Boteti River (Barnard, 1992). The Wayeyi lived along the Jao River in the northern Delta, on the northwestern side of the Delta around Seronga and on the southern edge of the Delta, around Maun, and a few Wayeyi still live in their putative ancestral home in the Caprivi Strip (Figure 5.7) (Larson, 1988; Bock, 1998; Bock and Johnson, 2002).

However, due to the development of the Moremi Game Reserve and other wildlife reserves, the implementation of policies restricting hunting in the Okavango Delta, the conversion of communal land into Wildlife Management Areas (WMAs) and the subsequent growth of mass tourism, large-scale migration occurred throughout the Delta – particularly from rural areas to Maun – to such an extent that today, most towns and villages have up to nine or more different ethnic groups residing in them. A number of people from other ethnic groups such as Ovaherero, Ovambanderu and Batawana now also live in parts of the Okavango Delta. There are also several other Bushmen groups represented by a handful of people. These groups were decimated by diseases of contact in the middle part of the Twentieth Century, and most of the remaining members have intermarried with the Xanekwe. Hence, most of the larger towns and villages in the Delta region comprise groups of Hambukushu, Basarwa (San), including Bugakwe and Xanekwe; Wayeyi; Dxeriku; Bakgalagadi; Basobia; Barotse; Ovaherero and Batawana (Figure 5.7). There is also a growing White and Asian community in Maun and Shakawe (Makhwaje *et al*, 1995; Bock, 1998).

Figure 5.7: Movements of Tribal Groups into the Okavango Region



Source: Mendelsohn and el Obeid, 2004.

Bugakwe and Xanekwe people traditionally lived in small groups centered on extended family relationships with no central authority figure such as a chief. These extended family groups moved periodically in response to local depletion of game, and groups would sometimes camp together for several months, or even years before going their separate ways. The Dxeriku, Hambukushu and Wayeyi people all resided in semi-permanent, patrilocal extended family settlements. There was a central authority figure in the form of a hereditary herdsman, and within a radius of several kilometres from the settlement most families were related (Bock, 1998; Hitchcock, 2000; Bock and Johnson, 2002).

During the late 1700s, the chief of the Batawana, a Tswana speaking group, began to exert political control over the Okavango Delta peoples. This external control resulted in changes to the traditional political structures of these groups, and many matrilineal oriented customs regarding property and the family were replaced by patrilineal Tswana traditions. In the early 1900s the British also began to exert political control over the Okavango Delta, integrating traditional political institutions into government based ones. It was only when Botswana became independent in 1966, however, that government political institutions became formalised in much of the Okavango Delta. Today, the traditional headmen have been replaced by government employees and are assisted in their duties by police, court personnel and citizen committees (Bock, 1998; Hitchcock, 2000; Bock and Johnson, 2002).

The arrival of the Batawana in the late eighteenth century was to have a powerful impact on the political and social fabric of the Delta region. The tribe had its origins in a group that broke away from the cattle-herding Bangwato of the eastern Kalahari, in about 1800, due to a dispute between their leader and his brother. They made their way westwards to the Khwebe Hills around Toteng, 25 kilometres from Lake Ngami. Once settled, they themselves became expansionists, eventually extending their authority and culture across the entire Delta area. They also extracted tribute, in the form of meat and hunting trophies from other residents of the Okavango Delta, and by 1850, it is thought that they owned most of the region's cattle. Today, the Batawana, together with some dozen other groups that migrated to and across the Kalahari, are part of Tswana society, to which the great majority of Botswana's people belong and which is also prominent in the human geography of South Africa's northern areas. The Bangwato however, remain the largest of Botswana's

tribal components, accounting for approximately a quarter of Botswana's population (Bailey, 1998).

Today, the Ngamiland District as a whole is under the Batawana authority and all people in the Ngamiland District are referred to as Batawana, a factor that is disputed by other groups in the region such as the Wayeyi, who prefer autonomy (Mbaiwa, 2002).

5.4.1.2 Pre-Colonial Natural Resource Management in the Okavango Delta

Prior to the arrival of Bantu-speaking groups in the now Ngamiland Region in northern Botswana several hundred years ago, various San or Bushmen occupied this area. These San groups, which included those of Banoka (River Bushmen) and those of Mababe (Sandveld Bushmen) had traditional ethics, norms, institutions and practices which governed the use and management of natural resources. Today, these San groups are represented by the Bugakwe and Xanekwe Bushmen in Ngamiland District, with all other San groups or clans generally having either become 'extinct' or marrying into these two groups (Bock and Johnson, 2002).

The Banoka and Mababe San groups had strong traditional leadership institutions which governed the utilisation and management of all natural resources in their respective territories. The San lived around the Okavango Delta in small groups of 30 to 50 people who were generally of the same clan. Their population was small and they therefore placed little pressure on the available resources, ensuring that they were not over-harvested or utilised (Bock and Johnson, 2002).

Each San group or band had its own leader, generally represented by the most senior male person in the group, in terms of age. Group or band members respected his leadership position and such a leader was considered by his subjects to be endowed with ancestral powers and charms, and could therefore communicate with ancestors through dreams and visions. He was hence, a traditional healer, hunter and a spokesperson for his band. A chain of respect and authority passed from the San leader, to elders and down to the household members, with the father and mother followed by their eldest male child, to the last child in the family (Tlou, 1985; Thakadu, 1997; Bock and Johnson, 2002).

The leader in each San band or group was responsible for the utilisation and management of all natural resources in his territory. He dispatched hunting and gathering expeditions and ensured that other San groups did not utilise resources within his area. The leader would defend resources in his territory from other infringing bands, and would remind his own subjects of their territorial boundaries and conservation ethics to be observed during hunting. Hence, it was the leaders that traditionally controlled the hunting and gathering activities in and around the Okavango Delta (Thakadu, 1997; Bock and Johnson, 2002).

5.4.1.3 Traditional Land Use Management Amongst San Groups

In order to avoid land degradation and the over utilisation of resources, San groups were migratory in nature but always kept the same camps or sites within their various movements. The abundance and availability of natural resources such as water, wildlife and useful plants influenced the location of such camps or settlements. Mababe (Sandveld Bushmen) groups would move towards the Delta in drier seasons and years, and outside of the Delta in periods of plentiful rain. These San movements from one 'settlement' to another were essential in ensuring the recuperation and sustainable management of resources in the Okavango Delta region (Campbell, 1995; Bock and Johnson, 2002).

San land, in a particular area or region, was divided accordingly amongst each band or group. Each group had its own hunting and gathering grounds, and were allowed to use natural resources in that particular area only. Natural features such as rivers, hills and large trees often marked the territorial boundaries for each band, and each band knew that hunting or gathering natural resources in another group's territory could lead to tribal wars. Therefore, respect for each group's territorial rights was observed. This respect for each other's territory by San groups gave the respective band the individual group's rights and custodianship over all the natural resources in that particular area, which helped ensure the sustainable use of resources by the San (Campbell, 1995; Bock and Johnson, 2002).

All natural resources in an area were communally owned, and therefore sharing in terms of their exploitation and utilisation was an important cultural aspect that required observation by everyone in the band. For example, the meat of large

animals was shared equally amongst San households after every kill, and this sharing helped to bind the community and household together. The meat would be shared by all until it was finished, and hunting would resume once more. This hunting was for consumptive purposes only, and the sharing of all resources was a cultural way of controlling utilisation, a system that avoided waste and encouraged the continued availability of such resources into the future (Campbell, 1995; Bock and Johnson, 2002).

5.4.1.4 Ecological Understanding Amongst San Groups

In regards to ecological understanding, the traditional San lifestyles showed a deep understanding of ecosystem functioning. The San had names for each animal, bird and plant specie in their territory and knew how each of these species fed and related to the environment. The San knew where, when and how to find food in their environments, and the seasonal migrations were done depending on the availability of wildlife, water and veld products (Thakadu, 1997; Campbell, 1995; Bock and Johnson, 2002).

Although San hunted throughout the year, hunting intensified only during the winter months, becoming limited in summer. Big game such as gemsbok, eland and giraffe were not hunted at all during summer, because, due to the heat, the bulk of the meat would become spoiled before it could be consumed or dried. Even though this was done to preserve the meat, it gave these species time to regenerate. Hence, during summer, small game was preferred to large animal species. In the summer months, more wild plant foods and veld products were available, which were used to supplement the main diet of meat, and hence less hunting was required. The seasonal migrations, hunting seasons and selective hunting indicate a thorough understanding of the ecological environment by the San. While males did the hunting, the women collected tortoises, reptiles, ostrich eggs, insects including certain beetles and caterpillars and wild plant foods. The fact that most hunting took place in winter and became less pronounced in summer shows that the San had a defined hunting season, which they strictly adhered to, a cultural norm that ensured the sustainable utilisation of wildlife resources (Campbell, 1995; Bock and Johnson, 2002).

Descendants of San groups that live in and around the Okavango Delta today state that water does not reach some of the lower streams in the lower parts of the Delta partly because of a grass species (Hippo Grass) which blocks the river channels. They point out that their ancestors used to burn the grass at certain periods, which allowed water to flow down the streams more freely, a phenomenon which they are no longer allowed to do since the control of the Delta shifted to the central government (Campbell, 1995; Bock and Johnson, 2002).

5.4.1.5 Bantu-Groups Traditional Resource Management Patterns in the Okavango Delta: Wayeyi, Hambukushu and Dxeriku

As discussed, apart from the San groups, the Okavango Delta region was, at a later stage, originally inhabited by three Bantu-speaking groups. These are the Wayeyi, Hambukushu and Dxeriku groups, who migrated to the Okavango Delta region from central Africa, Zambia and Namibia a few hundred years ago. At a later stage, other groups such as the Batawana, Busubiya and Ovaherero also moved into and inhabited the Delta (Bock, 1998; Bock and Johnson, 2002).

All three of these original Bantu groups traditionally engaged in mixed economies of millet, sorghum, maize and other crop agriculture, fishing, hunting and the collection of wild plant foods and veld products and pastoralism within the Delta region. Cattle were a measure of economic growth, but never as important to these tribes as they were to other groups such as the Batawana who later inhabited the area. Cattle rearing on a large scale was introduced by the Ovaherero from Namibia and the Batawana in the early nineteenth century. Much time was spent by members of these tribes hunting wild game before game laws came into effect, and fish, found in abundance throughout the Delta, was a substantial supplement to their diets. Other additions to their diets came from collecting wild fruits, herbs, leafy plants, edible insects and honey. The Wayeyi and Dxeriku tribes practiced both molapo farming and dryland or rain-fed farming. The Hambukushu practiced only dryland farming (Terry, 1984; Tlou, 1985; Bock, 1998; Mbaiwa, 1999).

The natural physical environment contributed to the making of utilitarian items and crafts. Wood was used in the manufacturing of canoes, sledges, household items, furniture, handles of tools and weapons, and timbers for houses and fences.

Papyrus reeds and real fan palm fibre were available for the production of wall and floor mats, fences and also storage, winnowing and fishing baskets. Any scrap metal found was used by blacksmiths to make arrow and spear heads, and knife and tool blades (Terry, 1984).

Wayeyi were also responsible for the introduction of mekoro boat making into the Okavango Delta, which was widely adopted by all groups living in the region, for transport and hunting. All three of these groups hunted hippo and elephant, mostly with spears, snared antelope and fur-bearing animals, and fished with reed traps, baskets, nets and spears. The use of traditional hunting weapons ensured that over-harvesting was not possible (Mbaiwa, 1999).

While fishing and hunting played an important role in the traditional economies of these groups, laws existed to regulate such activities. Each village had its own fishing and hunting grounds, and heavy fines and the confiscation of fishing and hunting equipment was the punishment imposed on individuals that fished/hunted in another groups/villages territory. Failure to pay fines could result in the poacher being forcibly incorporated into the village of people whose territorial rights he violated. Such measures were put in place to protect communal natural resources from other tribal groups, therefore allowing the availability of the resource into the next generation (Tlou, 1985; Mbaiwa, 1999).

Hunting was administered through a chief or headman who had power over the land and natural resources. Hunting was done throughout the year, but at different intensities, and during the breeding season only male animals were killed. Hunting was most intense in winter as the lower temperatures meant that meat could be stored for longer periods. In summer hunting was less intense due to ploughing activities which both male and females participated in, which gave wildlife time to recuperate. Birds were hunted throughout the year but during the growing season troublesome birds species such as guinea fowl and quellea were focused on. This diversified economy of agriculture and hunting and gathering was important in that during the ploughing season, when hunting was minimal and veld products abundant, wildlife would be given a chance to multiply for future use (Campbell, 1995; Thakadu, 1997; Mbaiwa, 1999).

5.4.1.6 Batawana and Natural Resource Management in the Okavango Delta

The most important characteristic of the period before the arrival of the Batawana in the Okavango Delta region was the absence of an unitary state and the prevalence of small-scale communities with diversified social and political structures. None of these entities were powerful enough to impose its rule on others and hence, they co-existed in a fairly peaceful and balanced manner and were relatively autonomous until their incorporation in the Batawana State in the early nineteenth century (Tlou, 1985; Mbaiwa, 1999).

Natural resource utilisation and management under the Batawana rule in the Okavango Delta was mostly governed by the use of customary, totemic and tribute laws. These laws were built upon indigenous knowledge and modified with time to meet the changing needs and nature of natural resource use (Mbaiwa, 1999).

5.4.1.7 Customary Law

Under customary law, all resources belonged to the community who would then surrender their rights to the chief. The chief was entitled to hold all resources in trust for his tribe, and as title owner of the land he was entitled to share in the proceeds of the utilisation of these resources. Communal ownership of the resources meant communal policing of resources against overharvesting (Schapera, 1943; Mbaiwa, 1999).

Customary law traditionally allowed local Batawana to hunt and gather resources wherever they pleased within their tribal territory. The chief generally kept regiments of hunters who hunted on his behalf and that of his communities. Hunting was also carried out predominantly in winter, and fur-bearing animals were not hunted at all during the summer months. According to this customary law, the chiefs received all animals killed in collective hunts, and the meat was then shared amongst the people. The skins and trophies of important animals would be given to the chief. Hence, both individuals and collective hunters would give, for example, the skins of lions, ostrich feathers and elephant tusks to the chief, as a form of tribute and a sign of loyalty and respect. It also enabled the chief to be aware of the level of wildlife offtake so as to prevent over-utilisation (Spinage, 1998; Mbaiwa, 1999).

Once the Batawana 'conquered' the five original tribal groups of the Delta, as well as other groups that migrated to the region at a later stage, such as the Busabiya and Oveherero, the Batawana appointed a major tribal overseer for each group to ensure that each tribe fulfilled its obligations of handing over hunting spoils such as ivory and skins to the Batawana chief or the appropriate tribal overseer. This again helped keep the Batawana chiefs and elders informed of the wildlife offtake rates in the region (Mbaiwa, 1999).

5.4.1.8 The Totemic Law

According the Campbell (1995) all the different tribal groupings in Botswana recognised totemism, the belief that under certain circumstances some humans can transpose their spirits into those of wildlife animals or take on an animal form before and after death. As such, birds and animals considered to be totems were respected and never killed, which helped in the preservation and conservation of such animals. For example, Xanekwe and Bugakwe groups regarded lion and warthog as some of their totems. Wayeyi had several animals as totems, which included elephants, hippopotamus, crocodile and certain fish. The Batawana totem was the duiker (phuti). The killing and eating of totems was forbidden. It was generally believed that anyone who killed or ate his/her totem would lose all their teeth and develop sores all over their bodies. It was also believed that the community as a whole would suffer from such an act, and natural calamities such as drought, hailstorms, locust swarms, disease and other forms of pestilence were the result of killing/eating totems. This respect and observation of totemism was an important cultural practice as it ensured the preservation of certain wildlife species (Campbell, 1995).

5.4.1.9 The Tribute Law

Since all land and its natural resources belonged to the Batawana chiefs in the Okavango Delta region, it automatically meant that all tribal groups in the area, together with the Batawana themselves, had to prove their loyalty to the chief through the payment of tribute. As the chief's tribute rights, the people gave him tusks of any elephant killed, skins and claws of all lion and leopard, feathers from all ostrich, etc. The chief generally kept the ivory and feathers for himself, but often gave lion and leopard skins to his relatives and tribal doctors. The chiefs used this

payment of tribute as a way of ensuring their control over the utilisation of wildlife in their territories (Mbaiwa, 1999).

5.4.1.10 The Kgotla and Natural Resource Management in the Okavango Delta

The people of Ngamiland District, with the exception of the San communities, had the Kgotla which served as the most important traditional institution in relation to natural resource utilisation and management. The Kgotla is a traditional Tswana village assembly where all members of the community are allowed to attend and discuss issues that affect them. It was traditionally the most democratic institution amongst Tswana society, where everyone was allowed to express his or her view without inhibition. The Kgotla could be used as a court and a public place for society to discuss ideas, policies and projects to be implemented for the benefit of the whole community. The local chief was the head and chairman of the Kgotla, commanding respect amongst all members of his community (Mbaiwa, 1999).

In the pre-colonial period in Botswana, local traditions and customs regarding natural resource management and use were discussed at the Kgotla. There were unwritten laws governing hunting, gathering and the collection and harvesting of any veld product. These laws were implemented and enforced by the community chiefs through the Kgotla system. The Kgotla was therefore used as a regulating institution or body in resource utilisation. This formalised institution existed, to varying degrees amongst all the Bantu-speaking groups in the Ngamiland region, while the San groups held only casual meetings, probably due to their low level of population and political development when compared to their Bantu-speaking neighbours. The Batawana communities had such a traditional institution when they arrived in Ngamiland District, however it was more developed and sophisticated in comparison to any of the other Bantu-groups which already inhabited the area. The Kgotla institution and all the cultural respect attached to it by the individual tribes or clans facilitated the sustainable management of natural resources in the local environment (Mbaiwa, 1999).

5.4.1.11 Introduction of European Trade into the Okavango Delta Region

The traditional natural resource utilisation and management systems in the Okavango Delta region and Ngamiland District were severely affected and altered by the arrival of Europeans and their subsequent trade expansion into the region. In the 1850s, Dr. David Livingstone arrived in the now Ngamiland district in northern Botswana and introduced European trade into the area, of which ivory was the main commodity. At the time, ivory was being exported via the Cape of Good Hope in South Africa to India and Europe (Campbell, 1997). Campbell (1995) states that during the next fifty years, after the first arrival and introduction of trade by Dr. Livingstone in the Ngamiland district, vast numbers of wildlife were destroyed. By 1900, hunting throughout Botswana had reduced the country's vast elephant herds of some 400 000 animals to just a few thousand. These were confined to the protected tsetse areas of the Okavango, Chobe and Limpopo Rivers where wagons previously could not travel (Campbell, 1997).

The commercialisation of wildlife and the resultant introduction of a monetary economy altered the local community's attitudes and perceptions towards wildlife resources in Ngamiland District and throughout the country as a whole. Wildlife resources such as ivory, ostrich feathers, spotted cat skins, hippopotamus and rhinoceros whips, giraffe and kudu remains, etc., on which communities had previously depended for their livelihoods, under a regulated system of usufruct and shared rights access, all took on new value (Campbell, 1997). Local chiefs began to see profit in the commercial hunting activities of the foreigners, turning a blind eye to the subsistence needs and values that were so important to their local communities (Mbaiwa, 1999).

European trade in the now Ngamiland district and Botswana as a whole introduced and spread the use of guns at an alarming rate. For example, by 1874 Chief Moremi of the Batawana is believed to have personally owned more than 2 000 'modern' rifles, which he issued to his tribesmen to hunt on his behalf. Another estimate places the total number of rifles in Ngamiland at the time at 8 000. These rifles were generally used to hunt the larger species of wildlife so that the trophies, ivory, hippopotamus and giraffe hide, furs and ostrich feathers could be exchanged for

more rifles, European-made clothing, ironware, lead, liquor and gunpowder (Campbell, 1997).

The involvement of local communities in the Ngamiland District in European trade changed the traditional wildlife utilisation patterns in the area. Wildlife was no longer used only for consumptive and religious purposes, but for commercial gain as well. The commercialisation of wildlife resulted in the over-harvesting of particular species as trade was driven by profit making with little or no consideration for ecological impacts. The involvement of Europeans led to the loss of control of the Batawana chiefs over the use of wildlife. European traders became involved in illegal trade and hunting in the Ngamiland District, and this contributed to the depletion and over harvesting of wildlife resources (Mbaiwa, 1999).

The development of commercial trade in the District also heralded a change in people's attitudes and perceptions towards the traditions of respect for seniority and collective ownership. Attitudes changed as chiefs lost power and people started to recognise exclusive property and trading rights. Communities began to look to wildlife and other resources as a commodity for profit, and attitudes towards wildlife preservation changed as commoners could now buy guns and trade with Europeans directly, without going through their chief.

This marked the end of an era where traditional wildlife management was sustainable. New and foreign technological innovations tend to favour the over-exploitation of biological resources and weakening of traditional approaches to conservation, especially when a technologically superior group moves into a region occupied by groups with a simpler technology. The collapse of traditional wildlife management systems in Botswana was the result of the intrusion of European trade into traditional wildlife utilisation systems. This new European technological approach to wildlife resource use failed to adopt the previously held concept of sustainable use of the resource, leading to the deterioration of wildlife in the Ngamiland Region and the country as a whole (Mbaiwa, 1999).

5.4.1.12 The Beginnings of Conservation in Botswana

After 1875, once much of Botswana's wildlife population had been destroyed, several local chiefs, such as Khama III realised that hunting needed to be controlled. Foreign commercial hunting was forbidden and white sport hunters were required to obtain permission from the local chief in the area. In 1885 Botswana came under British rule when it was declared a 'Protectorate of Britain'. However, it was not until the 1890s when chiefs had the backing of the Protectorate Administration that a quota and permit system for the hunting of elephant, giraffe and eland could be implemented (Campbell, 1997).

5.4.1.13 Game Statutory Laws in Colonial Botswana

The British Protectorate Administration developed statutory laws as a result of the appalling game destruction in the then Bechuanaland. By the late 1880s there was already a decline in European trade due to drought and the over exploitation of the wildlife resources in the country. The adoption of ever increasingly sophisticated methods of hunting and the changing patterns of land use also led to the reduction in game habitat in the country, which necessitated game protection (Campbell, 1997).

The introduction of legislation in 1886, which was the first statutory game law introduced in colonial Botswana, was primarily designed to curb this trade. The law placed restrictions on the hunting of certain species of wild animals, and it also re-introduced the concept of suspending hunting in certain months of the year. Licenses were now required to hunt, capture or sell game (Campbell, 1997).

In 1891, the Protectorate Administration adopted the Cape of Good Hope's 'The Game Law Amendment Act', which was enforced in Botswana in 1893. It was not until 1911, however, that a law was enacted controlling the trade in wildlife products. These laws applied only to foreigners and not to local people living on their own tribal land. In terms of the law, wildlife was termed 'game' and defined by species, which included mammals and birds. In effect, the law controlled the use of wildlife such as hunting, killing vermin, raising money from export taxes, and later trading in

wildlife products. Fish, reptiles, amphibians, insects and even certain mammals were not considered under the law (Campbell, 1997).

The introduction of statutory game laws did not solve the problem of unsustainable wildlife utilisation in the Ngamiland District, and Botswana as a whole. Hunting continued unabated and over the next 60 years the law was amended on several occasions and numerous regulations bought into force. The revisions, however, were of little significance, serving only to make the law more detailed. Generally, these applied only to foreigners and settlers. However, for local people living outside of tribal land, that is for those living on Crown (State) land, there were legal restrictions placed on hunting (Campbell, 1997). Prior to Botswana falling under British Colonial rule, the local chief directed the socio-economic and political development of their chiefdoms. With the British assuming political control, there was a shift in the control of natural resource utilisation and exploitation. In 1921, the issuing of hunting permits commenced, which was legalised in 1931, so that Crown residents could apply to hunt animals for food. It appears however, that for most Crown Lands, the law was not enforced (Campbell, 1997).

5.4.1.14 National Attitudes Towards Wildlife

Even though most Batswana's lifestyles were based on subsistence crop agriculture, wild plant-food collection and some hunting, status and social ties depended almost entirely on cattle. Cattle and cattle-raising had the greatest importance in their lives, and from the time of the declaration of the Protectorate, the Administration recognised not only the over-riding importance of cattle, but also accepted their economic value. With only poor arable crop potential, Bechuanaland was a cattle country, and cattle were the primary and almost sole export commodity (Campbell, 1997).

In 1933, A. W. Pim was appointed "To inquire into the position of the Bechuanaland Protectorate from the financial and economic points of view and to report thereon" (Campbell, 1997, p. 17). The Pim Report set the future tone of development with emphasis placed on the cattle industry. Wildlife was not considered in any way as a national asset. Over the next thirty years, developments favoured cattle to the total

exclusion of wildlife, which, if seen as a nuisance, was exterminated (Campbell, 1997).

Rey, who was Resident Commissioner of Bechuanaland from 1929 to 1937, initiated the Pim Inquiry and attempted to implement its recommendation for the cattle industry. At the same time however, he saw the potential of wildlife as a tourist attraction and looked for funds to establish a National Park in the Chobe area. This failed, but he still tried to give some protection to wildlife (Campbell, 1997).

It was not until 1961 however, that a comprehensive law, the Fauna Conservation Proclamation, was enforced. Unlike previous legislation, the 1961 Proclamation was designed to both protect and exploit Botswana's wildlife asset, and contained provisions for the creation of game reserves. Even so, for the most part local people living on tribal land were exempt from its provisions, and it was not until 1967 that District Councils began to implement for their districts, regulations to protect and control the local utilisation of wildlife (Campbell, 1997).

5.4.1.15 Protected Areas

The first major problem faced by the Protectorate Administration in seeking to create game reserves was that a large percentage of the land, including some of the best wildlife areas, was tribally owned. Hence, the consent of the tribe concerned was required before any reserve could be established on their land. It appeared that such an agreement was unlikely to be granted and for this precise reason, the first reserves were established on Crown (State) Land (Campbell, 1997).

In 1932, Resident Commissioner Rey refused a request by South Africa to declare land along the Nosop River and opposite the South African Kalahari Gemsbok National Park as game reserve land, to help protect the Park. However, opinion changed in 1938, after residents along the Botswana side were prosecuted for poaching. A survey was conducted and 280 people, supposedly with their consent and some compensation, were removed from the Nosop area north of Tweerivieren. In 1940, the Nosop River Game Reserve, an area of 9 700 square kilometres, was established, and later patrolled by South African Parks Board staff (Campbell, 1997).

However, Rey was anxious to establish a reserve in the north of the country, and proposed in 1932 that most of the Chobe District be protected. Rey used existing legislation to declare all game animals in the area protected, and that there would be no hunting in it by anyone for three years. In 1933 the area was slightly enlarged and it remained a non-hunting area until 1943 (Campbell, 1997).

5.4.1.16 Game Reserves

In 1958 the proposal for the creation of a game reserve in Chobe was once again raised. Finally, in 1960, the Chobe Game Reserve was established with boundaries designed to exclude settlements at Machenje, Kavimba and Kachikau in the west, at Kasane and Kazungula in the east, the Serondela sawmill, and the Colonial Development Corporation's land west of Mpandamatenga (Campbell, 1997).
After pleas from prominent persons, such as Laurens van der Post, that the Protectorate Administration do more to protect the Bushmen from land encroachment, a survey was carried out in the eastern Ghanzi District. In 1961, the entire area of some 52 000 square kilometres was established as the Central Kalahari Game Reserve. It was called 'Game Reserve' because the Administration was reluctant to call it a 'Bushmen Reserve', even though it was initially planned as such. Unfortunately for the resident Gcwi and Gxana clans, the original proposals for their subsistence were thrown out and they found themselves with rights neither to hunt nor keep livestock, but only to be able to enter the Game Reserve and live there without a permit. However, as nobody was appointed to manage the Reserve, life continued there as it had in the past (Campbell, 1997).

In 1963 residents of Maun, including the Tawana Regent, Mrs. Moremi, attempted to establish the first game reserve on tribal land. After some negotiation, the Batawana tribe living in the area agreed to set aside some 2 000 square kilometres in the northeastern Okavango Delta, which was declared the Moremi Wildlife Reserve. The exact location was chosen for its accessibility, varied swamp and dryland habitats, visible river boundaries - the Khwai and Mogogelo Rivers, and lack of human population. Not wanting government to administer their reserve, the Batawana agreed to the creation of an administrative body to do this, the Fauna and Flora Preservation Society of Ngamiland (Campbell, 1997).

5.4.2 Present Day Natural Resource Utilisation and Management in Botswana

After independence in 1966, most natural resource management strategies continued to be based on old British Colonial policies and institutions, or at best, partially modified by the new post-colonial leaders of Botswana. As a result, the Botswana Government has made little effort to formulate and adopt development policies that are relevant within the context of local community interest and environmental sustainability (Mbaiwa, 1999).

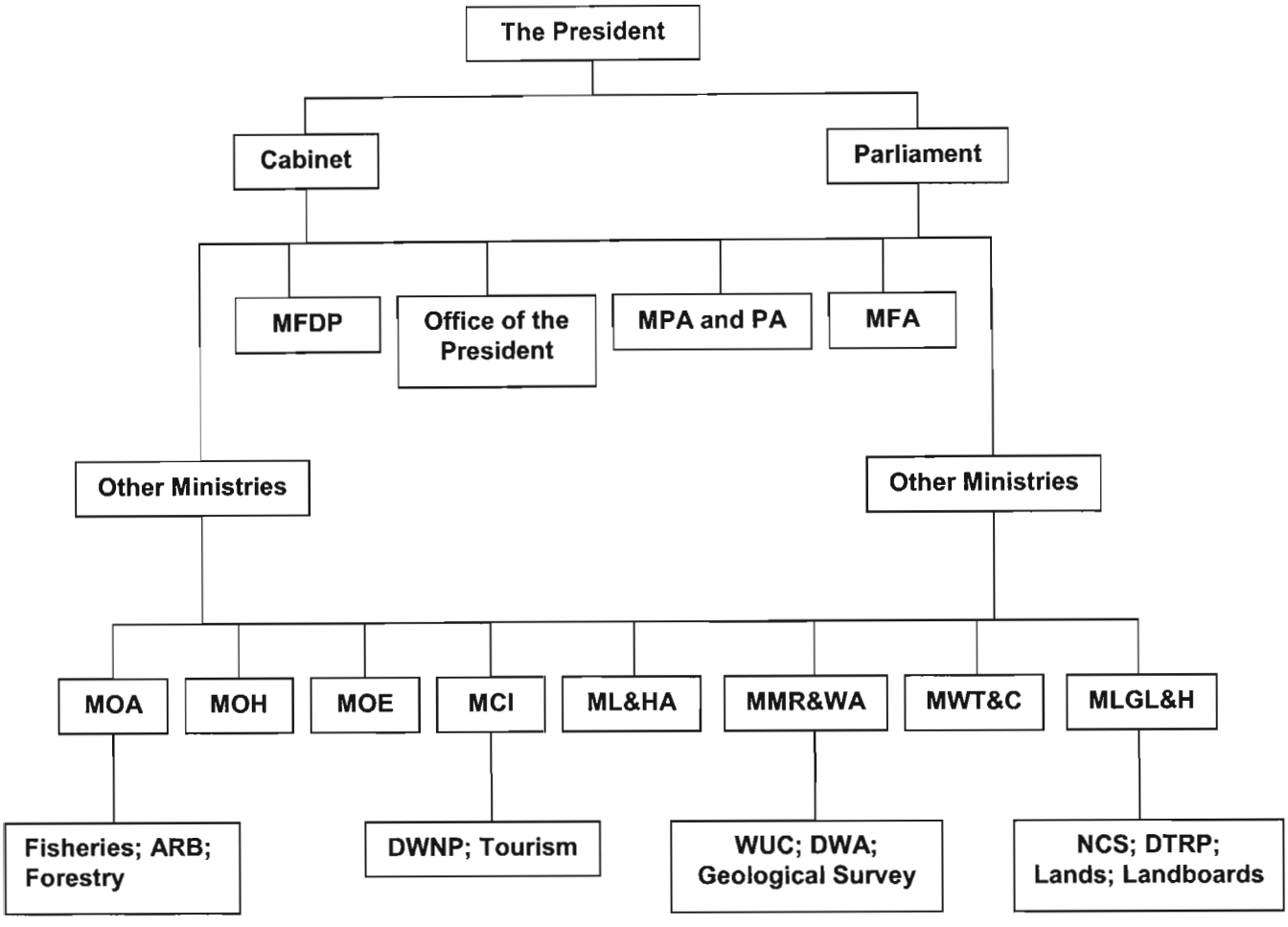
Additionally, wildlife policies and institutions in Botswana have continued to be formulated and adopted without the involvement and participation of all major stakeholders, especially the local communities (Figure 5.8). There is a general lack of knowledge amongst local communities regarding government natural resource policies, which makes them less likely to co-operate with the government in the implementation of resource utilisation and management programmes (Mbaiwa, 1999).

5.4.2.1 The Fauna Conservation Act of 1967

In 1967, the Fauna Conservation Act was passed, which was the first post-colonial wildlife law in Botswana. While the 1967 law retained most sections of the 1961 Fauna Conservation Proclamation, it replaced the customary laws or decrees and introduced the Tribal Hunting Regulations. These were separate hunting regulations for each tribal group and territory in the country, including Ngamiland District, and under this law tribesmen were required to pay in order to hunt (Mbaiwa, 1999).

The law had significant impacts on the livelihoods of the local communities throughout the country, as many of them could not raise the necessary fee to allow them to hunt. The local communities also interpreted the fee as a way of denying them the opportunity to utilise wildlife resources provided freely in their local environments. However, the law also made exceptions. It contained provisions for remote area dwellers to continue hunting freely, without any restrictions, except for conserved animals, as long as the hunting was done for consumptive purposes only, by individuals or households (Spinage, 1991; Mbaiwa, 1999).

Figure 5.8: Structure of Natural Resource Management in Botswana



Senior Ministries
MFDA – Ministry of Finance and Development Planning
MPA&PA – Ministry of Presidential Affairs and Public Administration
MFA – Ministry of Foreign Affairs
Office of the President

Line or Junior Ministries
MOA – Ministry of Agriculture
MOH – Ministry of Health
MOE – Ministry of Education
MCI – Ministry of Commerce and Industry
ML&HA – Ministry of Labour and Home Affairs
MMR&WA – Ministry of Mineral Resources and Water Affairs
MWT&C – Ministry of Works, Transport and Communication
MLGL&H – Ministry of Local Government, Lands and Housing

Departments
DWNP – Department of Wildlife and National Parks
DWA – Department of Water Affairs
ARB – Agricultural Resource Board
WUC – Water Utilities Corporation (a parastatal)
DTRP – Department of Town and Regional Planning
NCS – National Conservation Strategy

Source: Adapted from Mbaiwa, 1999.

Hence, while this legal provision allowed certain communities to continue hunting, the restrictions placed upon the hunting techniques and conserved species were perceived by many of the local communities as a further step in denying them the use of wildlife resources. This led to the development of increasingly negative attitudes towards wildlife conservation in Ngamiland district and the rest of the country as a whole (Mbaiwa, 1999).

5.4.2.2 The Fauna Conservation Act No. 47 of 1979

In 1979 the Fauna Conservation Act No. 47 was passed, which abolished the separate hunting regulations for each tribal area, consolidating them into a single set of regulations applicable throughout the entire country (Spinage, 1991; Mbaiwa, 1999). This law unified all tribal territory hunting regulations, resulting in the nationalism of hunting regulations in Botswana in an attempt to control licensing procedures in the country (Thakadu, 1997; Mbaiwa, 1999).

According to White (1995), the impact of these changes on rural livelihoods was severe. Rural subsistence dwellers had to start competing with urban citizens for hunting licenses, most of whom were recreational and professional hunters. The 1979 Conservation Act also dropped the practice of reserving a substantial proportion of the hunting quota for local residents (Mbaiwa, 1999). According to White (1995), the decline in benefits derived by rural communities from the use of wildlife resources significantly contributed to the marked change in public attitudes and perceptions towards wildlife conservation over the past two decades. The Basarwa (San) communities of East Ngamiland District were particularly hard hit by this Act, as their livelihoods revolved around subsistence hunting activities (Mbaiwa, 1999).

5.4.2.3 Wildlife Administration

By 1955 there was still no authority appointed to administer wildlife in Botswana. District Commissioners were responsible for issuing licenses for hunting, export of ivory, ostrich feathers and furs, and to make reports on the depredation of wildlife in their districts. The District Commissioner of Maun established the first hunting blocks in the Okavango Delta area, and initiated a booking system for sportsmen. On the

other hand, veterinary officers were constantly complaining about wildlife which carried foot-and-mouth disease, anthrax, nasal catarrh, lumpy-skin disease, rabies, lung sickness, rinderpest, nagana and a host of other ailments, all of which could, and were, being transmitted to domestic livestock. Official reports resounded with their complaints, and individual vets opposed the establishment of the Nosop River Game Reserve, Chobe Game Reserve, Moremi Wildlife Reserve and Nxai Pan National Park, as well as advocating the elimination of wildlife in cattle areas. Without veterinary objections, a Department of Wildlife Conservation may have been established years earlier in Botswana (Campbell, 1997).

Increased complaints by farmers in central and northern Botswana that growing elephant populations were destroying crops convinced the Protectorate Administration that official control of "...these marauding brutes" was necessary (Campbell, 1997, p.22). In 1956 the Game Control Unit was established by the Protectorate Administration, and a game officer, Major Bromfield, was appointed and stationed in Francistown, with the task of controlling elephant crop raiders. However, he had wider interests than just the control of elephants, and managed to gather a small staff and persuaded the Protectorate Administration to establish a legitimate wildlife department in Botswana, undertake a total review of the wildlife laws, hold a conference on wildlife conservation for the future, change the licensing system and initiate safari concession areas and safari hunting. He was naturally disliked by many veterinary officers (Campbell, 1997). Prior to 1956, there was no control over the utilisation of wildlife beyond the licensing of non-citizen hunters.

In 1964, the Game Control Unit changed its name to the Department of Wildlife, National Parks and Tourism, as the activities of the department grew to include limited commercial tourism ventures. In 1966 Major Bromfield retired and the Wildlife Department headquarters were moved to the Ministry of Commerce in Gaborone. A qualified veterinarian was appointed Chief Game Warden, more staff were hired, and the Department of Wildlife and National Parks began to take shape. Arguments with the Veterinary Department continued, but now at a lower level. However, the new Department had little status and an impossibly huge task: to create in a few years, in a country devoted to cattle raising, a conservation organisation born a century too late (Campbell, 1997).

The development of the Department of Wildlife and National Parks led to the establishment of the National Parks Act of 1968. The Department of Wildlife and National Parks drew its mandate and authority from the Fauna Conservation Act of 1967 and the National Parks Act of 1968. However, it was only in 1992 that these laws were consolidated into the Wildlife Conservation and National Parks Act of 1992. This Act provides regulations for hunting, national parks and game reserves (Campbell, 1997).

In 1985, the Republic of Botswana Organisation and Review Report recommended the establishment of separate departments of Wildlife and National Parks and that of tourism management (the Department of Tourism) (Mbaiwa, 2002).

5.4.2.4 The Department of Wildlife and National Parks (DWNP)

The Department of Wildlife and National Parks (DWNP) is one of the most important, and sadly one of the most ineffective, government departments responsible for the sustainable development and management of natural resources and wildlife in Botswana. Some 23 percent of Botswana's land is state owned, of which 17 percent is devoted to wildlife and national parks and game reserves, which are under the jurisdiction of the Department of Wildlife and National Parks. Hence, the DWNP is responsible for 17 percent of Botswana's land area, which includes all state-owned national parks and game reserves, including the Moremi Game Reserve in the Okavango Delta. These parks and reserves contain most of the prime wildlife areas and populations left in Botswana, upon which much of the country's tourism industry is based (Mbaiwa, 1999; Mbaiwa, 2002).

The general objective of the Department of Wildlife and National Parks is to manage natural resources found in protected areas, particularly wildlife (Mbaiwa, 2002). It sets as its main aim, the conservation, management, promotion and productive use of the national wildlife resources and the country's protected areas such as game reserves, national parks and wildlife management areas.

Even though the Department of Wildlife and National Parks has sound aims and objectives, it has been unable to effectively carry out its mandate due to numerous limitations. These include:

- As with other natural resource institutions in the country, the Department of Wildlife and National Parks currently has very little political support from the Botswana Government. This naturally limits its power and strength to effectively implement wildlife policies in the country (Mbaiwa, 1999; Mbaiwa, 2002).

- A lack of equipment, such as vehicles also limits the Department of Wildlife and National Parks' effectiveness. The Department of Wildlife and National Parks views lack of transport as a contributory factor in its ineffectiveness in the monitoring of tourism activities, especially driving outside of prescribed tracks and roads in environmentally sensitive areas, poaching and damage to crops, etc., by wildlife (Mbaiwa, 1999; Mbaiwa, 2002).

- Shortages of trained personnel and a loss of staff members to better paying jobs in the private sector, non-governmental and parastatal organisations.

- A lack of appreciation and support by people living in wildlife areas such as the Okavango Delta (Mbaiwa, 1999; Mbaiwa, 2002).

The current ineffectiveness of the DWNP has serious implications for Botswana. Firstly, as all major game reserves and national parks in the country, as well as approximately 40 percent of the Okavango Delta in the form of the Moremi Game Reserve are under the direct authority of the DWNP, most of the environment and wildlife populations that the tourism industry is based on is also under the management of this Department. As such, due to the DWNP's lack of manpower, finances, resources, knowledge and skill, and support from the central government, all state-owned reserves and national parks, as well as the resources such as unspoiled habitats and wildlife found in these areas are ineffectively managed and protected. The Botswana Government is attempting to bring about economic growth in the country through the creation of a thriving tourism industry. Yet much of the environment and resources upon which this industry is based is under the jurisdiction of a completely ineffective department, and hence is not given sufficient protection, or utilised and managed in a sustainable manner. For example, the last available figures from the DWNP in Maun on wildlife numbers in the Ngamiland

district, date back to 1991. Hence, even though the DWNP is responsible for monitoring changes in wildlife numbers in protected areas, no comprehensive information exists after 1991 for much of the Okavango Delta area.

Future wildlife control in Botswana is likely to remain with the Department of Wildlife and National Parks. Ironically, there is little doubt that the current state control of wildlife resources is inadequate, especially as most of the control is carried out from urban centres, which are dialectically and geographically detached from the rural areas. This, therefore, suggests that effective management and monitoring of wildlife resources requires the involvement of those living within the resource areas as they are best placed and could be economically motivated to monitor it effectively on a daily basis (Mbaiwa, 2002).

With regards to the direct impact of the Department of Wildlife and National Parks on the tourism industry in the Okavango Delta, several limitations were noted. These include the following:

- *Problems with liquid waste disposal:* As will be discussed in greater detail further on in this chapter, there is a general problem with waste management in many of the safari camps and lodges throughout the Okavango Delta. The DWNP is responsible for all public campsites that are located on land under the jurisdiction of this Department. As such, all public campsites in game reserves and national parks in Botswana are under the authority and management of the DWNP. In the Okavango Delta this includes all public campsites in the Moremi Game Reserve, such as those located at North Gate, Xakanaxa and South Gate. Liquid waste disposal at these campsites is poor, as the DWNP is unable, due to staff shortages, and a lack of transportation, etc. to ensure that all camps adhere to the prescribed regulations of waste disposal in protected and conserved areas. As such, septic tanks are often not emptied regularly and overflow into the surrounding areas, often into the waters of the Okavango Delta, causing pollution and unpleasant camping conditions for tourists (Mbaiwa, 1999; Mbaiwa, 2002).

- *Problems with solid waste disposal:* Although most campsites within the Moremi Game Reserve are generally clean, there is sometimes a problem with tourists leaving litter lying around. A bigger problem, however, is with baboons and monkeys emptying rubbish bins in the campsites. The DWNP provides baboon-proof bins in all campsites. However, many of these bins get broken and the DWNP does not replace them, making them ineffective against baboons, monkeys and other scavenging wildlife. Many bins are also not emptied by the DWNP regularly and hence overflow, resulting in rubbish lying around the campsites, which encourages the presence of scavengers. Ablution blocks in many public campsites are also noted for being dirty, with little attention or action being taken by the DWNP to address this problem (Mbaiwa, 1999; Mbaiwa, 2002).

- *Problems with the booking system for public campsites:* The booking of any public campsite under the authority of the DWNP has to be done through its Parks and Reservation Office. Bookings are either done in Gaborone or Maun, and this system is generally regarded as being ineffective. Attempts to make bookings can be difficult as tourists are often told that campsites are fully booked, only to find them empty once they visit the area. The mode of payment is also difficult as visa or credit cards are used to pay a deposit, but it is not possible to use such cards once in Maun or the Moremi Game Reserve (Mbaiwa, 1999; Mbaiwa, 2002).

- *Poor monitoring of tourist activities:* There is a general failure by the DWNP to monitor the activities of tourists once they are in the Moremi Game Reserve. Concern has been raised about self-drive and mobile tourists who, due to this lack of monitoring, are able to drive off road, or fail to deposit their litter in the right places. In addition, DWNP is also criticized for failing to provide tourists with the necessary information in the form of brochures and guidelines on tourist activities, which is partly noted for causing off road driving and poor waste management in public campsites (Mbaiwa, 1999; Mbaiwa, 2002).

5.4.2.5 The Growth of Modern Tourism in Botswana

In 1962 East African hunting safari companies were invited to explore the possibility of setting up 'branches' in Botswana. Three East African companies and one locally established one signed agreements and were given large concession areas in and around the Okavango Delta region and Chobe Game Reserve. In these concession areas local inhabitants were allowed to continue hunting, while they were closed to foreigners unless hunting with the concession holder. A package hunting license was developed comprising 31 animals of a wide range of species, and consequently rich foreign sportsmen began to come to Botswana to hunt with licensed professionals hunters. The following year a further concession was granted in the Kgalagadi to another locally based company, and in 1966, about 439 tourists paid the equivalent of Pula 67 078 for hunting licenses in Botswana (Campbell, 1997).

While the hunting industry expanded, an embryonic photographic industry began to develop. A South-African-based mobile operation, Afrika en Touren n Safari, started to bring tourists on three-week trips to the Okavango. Major Jocelyn set up a camp at Mababe in the Chobe Game Reserve and bought tourists from Zimbabwe for fishing and wildlife viewing, while at the same time, the first hotel was built in Kasane. There was, however, no Department of Tourism at the time, and it was several years before a tourist officer was appointed in the newly formed Department of Wildlife and National Parks (Campbell, 1997).

One of the major challenges presently facing Botswana is ensuring that the growing tourism industry does not destroy the natural, cultural and social environments upon which it is based. In order to control the development of the industry the Botswana government formulated the Tourism Policy of 1990. This policy emphasized the promotion of high cost, low volume tourism, and aimed at ensuring that Batswana benefited from the development of tourism (http://www.gov.bw...html).

5.4.2.6 The Department of Tourism

The Department of Tourism (DOT) is responsible for the formulation and implementation of policy objectives to maximise the sustainable utilisation of existing

natural resources and to increase the social and economic benefits to Batswana (Mbaiwa, 2002). The Botswana Tourism Master Plan (DOT, 2000) highlights the following specific aims of the Department of Tourism:

- Formulation and execution of programmes designed to promote tourism in Botswana;

- Research and development, including the collection and analysis of statistical data;

- Provision to the National Advisory Council on Tourism of such information, advice, and assistance as it may require; provision to the Tourism Licensing Board of information, advice, and recommendations on the licensing and grading of tourism operators;

- Monitoring of tourism operators for adherence to the terms and conditions of licenses, particularly with respect to progress made by the operators in pursuing localisation and other high-quality services to tourists; and

- Creating and maintaining an up-to-date inventory of Botswana's tourist assets to ensure that these are prioritised for development and protection (DOT, 2000 cited in Mbaiwa, 2002).

As with the Department of Wildlife and National Parks, the Department of Tourism has been ineffective in carrying out some of its responsibilities. Some of the major shortcomings of the Department include:

- Incomplete staffing appointments due to a lack of suitable candidates;

- Incomplete state of some functions, mainly licensing, grading and inspection;

- Inability to secure sufficient financial resources for its activities, and

- An uncertain organisational structure (Mbaiwa, 2002).

With regards to the Okavango Delta, specific problems with the Department of Tourism include:

- A general failure to monitor tourist activities in environmentally sensitive areas. For example, there is a problem of illegal driving and overcrowding of campsites especially in Xakanaxa in the Moremi Game Reserve. There is also a problem of some of the mobile tour operators operating in the Okavango Delta, using public campsites, without having been awarded operating licenses. This was noted mostly in operators who come from outside of Botswana. This situation is possible, as the DOT does not effectively monitor the use of the Okavango Delta's tourist areas (Mbaiwa, 2002).

- A general failure to effectively implement tourism policies. For example, failure to enforce the 'high-cost low-volume' policy. The policy was designed to maintain low tourist numbers in environmentally sensitive areas such as the Okavango Delta. Failure to effectively enforce this policy has resulted in the overcrowding of tourist facilities in the Delta, particularly campsites in areas such as the Moremi Game Reserve. In fact, the 'high-cost' aspect of the policy has been very successfully enforced in the Delta, enabling tour operators and companies to charge extremely high fees, yet effectively ignore the 'low-volume/low-impact' aspect of the policy, as the DOT does not sufficiently monitor and control tourist numbers in the Delta, enabling tour operators to disregard campsite carrying capacities, etc. As a result of this situation, the Okavango Delta is one of the most expensive tourist destinations in southern Africa, yet lacks the government or institutionally enforced control that should be placed on such an up-market destination (Mbaiwa, 2002).

- A lack of monitoring of tourist facilities to ensure that the prescribed management guidelines and procedures for tourist facilities located in preserved or sensitive areas are upheld. For example, the DOT has been

ineffective in ensuring that all tourist facilities follow sufficient and environmentally sensitive waste management procedures, and develop the correct waste management infrastructure, following DOT prescribed guidelines (Mbaiwa, 2002).

In an attempt to address some of these problems with the DOT's effective management of tourism areas, Mbaiwa (1999) and Scout-Wilson Consultants (1999) have made recommendations for the creation and development of a tourism board (much like the Tawana Land Board in the Ngamiland district) to guide tourism development in Botswana.

5.4.2.7 The Policy Framework

There is no specific government policy designed for the development of the wildlife-based tourism industry in Botswana. However, there are two primary government policies designed for the promotion of tourism development in the country. These are the Wildlife Conservation Policy of 1986 and the Tourism Policy of 1990 (Mbaiwa, 2002).

5.4.2.8 The Wildlife Conservation Policy of 1986

The Wildlife Conservation Policy of 1986, which is the most recent wildlife utilisation and management policy, is frequently seen as the blue-print for the re-introduction of community involvement in wildlife conservation through the implementation of Community Based Natural Resource Management projects (CBNRM). The Wildlife Conservation Policy is the precursor to virtually all the changes in wildlife conservation currently being carried out, and was designed to promote the economic development of rural areas through the implementation of tourism projects. The policy recognises the potential value of both consumptive and non-consumptive uses of Botswana's wildlife resources by the communities living in wildlife areas. The overall aims and objectives of the Wildlife Conservation Policy include:

- To develop a commercial wildlife industry in order to create economic opportunities, jobs and incomes for the rural population and to enable more

rural communities to enter the modern wage economy. This is hoped to reduce the number of rural people relying on subsistence hunting;

- To implement rational and effective conservation and management programmes that will ensure that wildlife is utilised on a sustainable basis; and

- To obtain good economic returns on the land allocated for wildlife utilisation (Mbaiwa, 2002).

Even though the Wildlife Conservation Policy of 1986 is considered the blue-print for the sustainable use of wildlife resources in Botswana, it has a number of problems:

- It was rushed through and was done without proper consultation and participation of stakeholders in wildlife management; hence the majority of them do not understand it, especially the local people in wildlife areas. As such, many stakeholders in the wildlife industry, particularly the local communities, did not participate in its early stages of design and formulation. The main beneficiaries of this policy (i.e., local people) have only a rough understanding of those sections of the policy that directly affect them, such as the establishment of wildlife community projects. The main reason for this situation is that most wildlife policies in Botswana are the brainchild of foreign donor agencies and foreign consultants who tended to ignore the involvement of local people in designing plans that affect their socio-economic livelihoods. Foreign donors and consultants also lacked adequate local knowledge, understanding, and awareness of the ecological and social dynamics that affect Botswana and the local communities in wildlife areas. This view is also shared by Mordi (1991, p. 89), who when writing about wildlife laws in Botswana concludes "...the laws were parachuted, fully formed in society and literally imposed by the government on the people". The exclusion of local people in wildlife policy design means local knowledge is not effectively fused into conventional methods of resource management and it is not in line with the principles of sustainable

development which emphasise the participation of all stakeholders in decision making, especially rural communities (Mbaiwa, 1999; Mbaiwa, 2002).

- The legislation and the policy do not address the role that can be played by the local communities living in and around protected areas in the utilisation and management of wildlife resources. The failure to involve the local communities in the management of protected areas has partially been instrumental in conflicts occurring between the local people of Ngamiland District and wildlife management (Mbaiwa, 1999; Mbaiwa, 2002).

- One of the major problems with the Wildlife Conservation Policy is that it is mainly consumptive in nature, and hence helps to accelerate the already declining wildlife population in the country. The policy needs to shift from being consumptive at both subsistence and commercial levels to a non-consumptive approach in face of the declining wildlife resources. According to Chief Tawana II of the Ngamiland district, a consumptive approach to the declining wildlife species can lead to the devaluation of the product, and there is therefore a need to shift the policy from being consumptive to that which promotes economic-based conservation (such as the use of wildlife in the photographic tourism industry). Since management policies have a top-down rather than a bottom-up approach, they only appeal to rich foreign investors who are able to establish wildlife-based ventures in the area. These industries are meant to realise quick profits from the use of wildlife resources, which might, in the long run, prove detrimental to the local environment, especially wildlife species in demand by safari and game hunters (Mbaiwa, 1999).

5.4.2.9 The Tourism Policy of 1990

The Tourism Policy of 1990 aims at diversifying the economy of Botswana. It recognises that revenues generated by tourism should be returned to the rural economy and that wildlife is essential to the tourist attraction of Botswana (Lawson, 1992; Mbaiwa, 1999; Mbaiwa, 2002). It outlines initiatives to decentralise the control of wildlife to districts and local communities to promote rural development in which

local people utilise wildlife resources for their own benefit (Mbaiwa, 1999). The specific objectives of the policy include:

- To increase foreign exchange earnings and government revenue;
- To generate employment, mainly in rural areas;
- To raise incomes in rural areas in order to reduce urban drift;
- To promote rural development and stimulate the provision of the services in remote areas of the country;
- To improve the quality of national life by providing educational and recreational opportunities; and
- To project a favourable national image to the outside world (Mbaiwa, 2002).

However, like the Wildlife Conservation Policy of 1986, the Tourism Policy had been rushed through without proper consultation with the various stakeholders (Mbaiwa, 1999). Hence, it is not properly understood by local communities. The policy adopts a 'top-down approach', designed to take place within the framework of rational land use zones, to ensure wildlife resource utilisation to promote tourism without necessarily taking the *de facto* open access and local community interests into serious consideration. This top-down approach has resulted in the policy lacking the integration needed to improve links between nature conservation, local community development, and the tourist industry itself (Mbaiwa, 2002).

5.4.2.10 The National Conservation Strategy (NCS) of 1990

The National Conservation Strategy (NCS) Policy document was approved by Parliament in December 1990 to deal with environmental problems in the country as a whole. The NCS set up two institutions: namely a 17-member National Conservation Strategy Advisory Board chaired by the Minister of Local Government, Lands and Housing, and a National Conservation Strategy Coordinating Agency.

The National Conservation Strategy Advisory Board advises government on all matters regarding the implementation of the National Conservation Strategy by coordinating the various environment and natural resource institutions of the government. The National Conservation Strategy Coordinating Agency, on the other hand, acts as the secretariat of the Board, and there are currently plans to turn the NCS Coordinating Agency, which consists of a modest establishment of 38 posts, into a department (Republic of Botswana National Development Plan 9, 2003).

Although the NCS Advisory Boards and the NCS Coordinating Agency were established, they have not been equipped with the necessary powers, firmly grounded in legislation, to enable them to effectively monitor and coordinate environmental issues. These problems have been worsened by the fact that there are a number of legislative environmental instruments touching on environmental matters and the enforcement mechanisms under these instruments have proved to be ineffective (Republic of Botswana National Development Plan 9, 2003). The translation of policies into concrete activities has been constrained by the limited implementation capacity, absence of a legal framework and the lack of involvement of communities as well as the non-governmental organisations and corporate sectors. The lack of a legal framework forces the NCS to depend on out-dated and inappropriate sectarian acts and policies, which further cripple its aims and objectives (Mbaiwa, 1999).

5.4.2.11 The Tribal Land Act of 1968 and the Traditional Kgotla Institution

With regard to the issue of land management after independence, the Tribal Land Act of 1968 led to the establishment of Land Boards in each district in Botswana in 1970. These Land Boards assumed the responsibilities for land matters previously held by chiefs and their representatives. The Land Boards became responsible for the allocation of tribal land under customary and common law procedures, the adjudication of disputes relating to tribal land, and the management of the land tenure system within tribal land. The Land Boards stripped the chief, who once held land and its natural resources in trust for his people, of his powers. Consequently, the Kgotla, which governed the use of land and natural resources was left with little or no control over land matters. The Tawana Land Board was created to take over tribal land issues in the Ngamiland District (Mbaiwa, 1999).

In the 1980s, a number of reforms within the Land Boards were made of which the chief, who was an exio-officio member of the Land Board, was removed. This was effectively the last step carried out by the government which removed community authority over the utilisation and management of land and the natural resources found on it. As such, the present system of land tenure in Botswana, where the country is divided into three land use types, namely, communal land, state land and freehold land, and is managed by the Land Boards, Department of Lands and private individuals respectively, ensures that the chief or the local communities have no effective role to play (Mbaiwa, 1999).

However, even in present day Botswana, the tradition of the Kgotla where villagers are permitted to express their views has continued, providing an opportunity for ordinary Batswana to discuss relevant matters with civil servants, field officers, councillors and members of parliament. Despite this though, the Kgotla is now primarily used as a means by the government to inform the public of relevant issues, and the implementation of new policies and programmes. As such, local communities are not incorporated into initial decision making processes further reducing the power and effectiveness of the Kgotla institution as a form of local authority and control (Mbaiwa, 1999).

5.4.2.12 The Tawana Land Board and Tourism Development

The Tawana Land Board in the Ngamiland District is one of the primary institutions in tourism development in the Okavango Delta, particularly with regards to land management in communal areas. Land tenure in the Ngamiland district is divided into two main types, communal and stateland, and while the land board is responsible for communal areas, the central government is responsible for the management of stateland. A total of 66 532 square kilometers of land (61 percent of total land area in the Ngamiland district) is currently under the authority of the Tawana Land Board. The central government is responsible for the other 42 598 square kilometers (39 percent of total land area) in the district. In general terms, land boards are responsible for the allocation of land, canceling of land rights, impositions of restrictions on land use, authorization of the transfer of tribal land, and the hearing of land disputes and appeals (Mathuba, 1998; Mbaiwa, 2002).

The growth of tourism in the Okavango Delta on communal land areas such as wildlife management areas has resulted in the Tawana Land Board also being responsible for the allocation of land to both safari operators and local communities for the development of tourism ventures, in the form of concession areas, in controlled hunting areas and wildlife management areas. Concession areas are large pieces of land located within controlled hunting and wildlife management areas which are leased out by the Tawana Land Board to commercial tourist and hunting operators for the specific development of hunting or photographic safaris. Therefore, all tourist ventures developed on communal land in the Ngamiland district are under the authority of the Tawana Land Board, while all ventures developed on state land are under the authority of the Department of Wildlife and National Parks or the central government (Mbaiwa, 1999; Mbaiwa, 2002).

The Tawana Land Board presently controls 15 concession areas in and around the Okavango Delta, which are leased out to commercial operators for the development of hunting or tourism ventures. There are also several other areas under the authority of the central government which are located within stateland areas in the Okavango Delta and are leased out to operators for tourism development (Mbaiwa, 2002).

There are two main types of lease agreements/contracts available from the Tawana Land Board in the Okavango Delta for the development of tourism or commercial hunting ventures. Firstly, the Tawana Land Board offers a 15-year lease on concession areas or smaller pieces of land within wildlife management areas and communal areas in the Ngamiland district, with on-going inspections and reviews carried out by the Tawana Land Board every five years. Secondly, a 50-year lease for pieces of land within wildlife management areas and communal areas, for the development of tourism ventures, does exist, but is now very rarely awarded to tourism operators. As such, most of the areas of land that are presently used for tourism/hunting ventures, under the authority of the Tawana Land Board in the Okavango, are held under 15-year contracts. As all the land held under the Tawana Land Board is communal land, none of the land can be bought or sold. The Tawana Land Board receives royalties and lease fees from the operators/companies that lease land from it (Mbaiwa, 2002).

The process of acquiring a concession area or smaller piece of land for the development of tourism/commercial hunting ventures in the Okavango Delta from the Tawana Land Board is fairly straight forward. Firstly, once a concession area/area of land becomes available (once its current lease agreement expires), or once a 'new area' is earmarked for tourism development, the Tawana Land Board selects a lessee through an invitation to tender, generally extended to the current lessee, local communities living in/near the area that are interested in developing community-based tourism projects, or established safari/hunting operators and companies. A technical committee, comprising central and local government officials from the Department of Wildlife and National Parks, Department of Tourism, District Administration, District Council, and Tawana Land Board assesses and ranks the proposals of all tenders received. Once a lessee is chosen, resource management rights, together with a security of tenure through a fifeteen year lease is awarded to the operator, company or local community. With regards to concession areas, the central government, through the Department of Wildlife and National Parks allocates a wildlife offtake quota (for hunting or capture purposes) for that particular area. Given that both the Tawana Land Board and the Department of Wildlife and National Parks are government authorities, land and wildlife remain centralised in the Delta, and the use of this land and wildlife is therefore ultimately controlled by the government.

Most safari companies or operators that are awarded concession areas in the Delta use their land to develop upmarket tourist or commercial hunting ventures, providing luxury tourist accommodation facilities, tourist activities such as wildlife viewing opportunities, boat trips, fishing activities and scenic flights over the Delta. Most operators that focus on 'photographic safaris' do not use their wildlife offtake quotas and many choose to sell their quotas to commecial hunting operators, or through the sale of live animals to game farmers. Most commercial hunting operators use their quotas through the sale of hunting opportunities to wealthy clients, which can bring in/generate substantial sums of money.

With regards to local communities in the Okavango Delta, areas of land are also leased, together with resource rights and wildlife offtake quota for concession areas to a community-based organisation, representative of the entire community, for a

fifteen year period. The community-based organisation then has three options available for the use of their area of land and wildlife quota. Firstly, they can manage the area of land themselves and develop a community-based tourism venture; secondly, they can sub-lease the land and resource rights (wildlife quota for concession areas) to a safari operator at a fee; or lastly, they can enter into a joint venture agreement partnership with a safari company/operator, where the community-based organisation provides the area of land, and the safari operator provides the expertise and management skills needed to develop and run a successful tourism/commercial hunting venture. In the Delta, joint-venture partnerships have proven to be relatively successful, particularly in cases where the safari operator establishes the tourist infrastructure on the community land, while the local community provides opportunities for the tourists such as mekoro trips through the Delta and unique cultural experiences in the community's village, etc. However, a general lack of expertise and the necessary capital to invest in tourism activities by the community-based organisations have so far resulted in the sub-leasing of areas to safari companies by most of the community-based organisations in the Delta.

Both the fifteen year and fifty year lease contracts incorporate laws, provisions and regulations controlling land and resource use and provisions and regulations for the building of tourist facilities, etc. These regulations are enforced by the Tawana Land Board.

Firstly, prior to any development by the land holder or lessee, an EIA must be carried out and all proposed developments approved. There are generally very few regulations controlling the use of building materials in the Okavango Delta, except that no developments may detach from, and all structures must fit in with, and contribute to, the aesthetic value of the area. As such, most tourist facilities in the Delta must have thatched roofs, and many are constructed out of indigenous wood and reeds or make use of the existing natural vegetation such as the incorporation of existing tree trunks into structures, etc. Materials such as corrugated iron sheeting or plastic may not be used for construction of tourist facilities on Tawana Land Board land. All tourist facilities must also have efficient, environmentally safe waste-management and rubbish disposal systems which the Land Board provides guidelines for. The 15-year lease contracts for concession areas also contain laws and conditions controlling the use of the areas land, resources and wildlife. As such,

the lessee may only use the land for the activities contained within the contract, such as game farming, tourism development, commercial hunting ect, and not, for example, agricultural development. The failure of the land-holder/lessee to abide by the laws, regulations and conditions provided in the lease agreement will result in the termination of the lease contract.

As the Tawana Land Board is one of the primary institutions in tourism development in the Okavango Delta, it controls not only the allocation of communal land for tourism development, but is responsible also for the monitoring of tourism growth, controls the building of most of the tourist facilities in the Delta and ensures that the tourism industry does not degrade the environment upon which it is based. It is through the Tawana Land Board that the government enforces its 'high-cost, low-impact' tourism policy. As such, the Tawana Land Board plays an extremely important role in land and tourism management in the Delta. However, it has also been noted that there are several problems associated with the Tawana Land Board which may threaten the sustainable use of land resources in the area.

Firstly, there is general dissatisfaction amongst tour operators/companies in the Delta regarding the Tawana Land Boards policy of awarding only 15-year contracts, with reviews carried out every five years. Many of the managers of tourist facilities under the authority of the Tawana Land Board, interviewed in the Delta, stated that the 15-year policy:

- Limited the lifespan of their tourism facilities/ventures;

- Discouraged them from putting too much capital into the development of their tourism infrastructure as there were no guarantees that their leases would be renewed after 15 years, and hence would not reap any long-term benefits from their ventures;

- Encouraged attitudes amongst tour operators of 'take what you can from your tourism venture over the short-term, regardless of environmental, social consequences', leading to a lack of accountability amongst tourism operators/companies;

- The 5-year review policy left many operators feeling insecure about the future of their tourism developments as, due to problems associated with racism and abuse of power by Tawana Land Board officials, leases could be cancelled after just five years, for no conclusive reasons; and

- The 15-year lease policy generally prevents operators from developing their ventures to their full potential.

Many of the managers of tourist facilities under the authority of the Tawana Land Board, interviewed in the Delta, also stated:

- That they experienced racism from Tawana Land Board officials, which made dealing with the Land Board 'difficult and unpleasant'; and

- That during inspections and the five-year review process, many of the Tawana Land Board officials were biased towards expatriate tourism operators, abused their power and authority, making it increasingly difficult for tourist operators to have their leases renewed, and making review periods 'difficult and unpleasant' for tourism operators.

According to Mbaiwa (2002), other, more general problems associated with the Tawana Land Board include:

- The poor monitoring of concession areas, hence some of them are run by safari operators as semi-autonomous states in the country;

- Failure to ensure proper waste management and disposal in lodges and camps under their authority. The Land Board conducts inspections of tourism facilities and activities in areas under its control, however, problems of failure to follow prescribed guidelines and agreed terms by operators are common; and

- Failure to ensure that environmental regulations such as the monitoring of the aesthetic value of the Okavango Delta are maintained. For example,

iron corrugated roofing is not allowed in the Okavango Delta. However, some of the lodges in the Delta have used iron-corrugated sheets for accommodation facilities for their workers (Mbaiwa, 2002).

5.4.2.13 Post-Colonial Government Support of Agricultural Production

Lastly, one of the major issues that must be discussed with regard to wildlife and natural resource management in Botswana is the fact that the post-colonial government land-use economic policies in Botswana generally support agricultural production at the expense of wildlife conservation. The establishment of the Ministry of Agriculture and the Botswana Agricultural College to support agricultural production immediately after independence in 1966 appears to validate this hypothesis. These agricultural production developments were coupled with huge government expenditure, particularly in the livestock sector (Mbaiwa, 1999).

The Botswana Government first demonstrated its support for the livestock industry through the introduction of the Tribal Grazing Land Policy (TGLP) of 1975. The primary objective of the TGLP was to commercialise livestock production and conserve the rangeland. This was to be achieved through the allocation of blocks of land within communal areas for leasehold ranches, to be used for commercial ranching. However, when the TGLP proved a failure in 1991 the government modified the policy and introduced the Agricultural Development Policy (ADP). The ADP focuses primarily on fencing livestock farming land in communal areas to improve the productivity of the livestock subsections and ensure the sustainable use of range resources (Mbaiwa, 1999).

With regard to the arable sector, the primary government programme is the Arable Land Development Programme (ALDEP) which was introduced in the late 1970s. ALDEP's main objective is to improve farming methods and techniques through the provision of financial assistance to farmers. In 1983, the Botswana Government decided that it would pay 85 percent of the cost of any assistance, leaving the farmers to pay only 15 percent. In 1985 the government further implemented the Arable Rainfed Agricultural Programme (ARAP) which effectively became a drought relief programme. It provides a set of subsidies to all farmers, such as the distribution of seeds, payment for destumping and weeding one's own field, and the

government also provides 85 percent of the fencing costs of a farmer's field. Studies indicate that government support for agricultural production, especially livestock, has resulted in a significant increase in the country's cattle herd (White, 1993; Mbaiwa, 1999).

This increase in the cattle herd is coupled with a decline in wildlife species over the past twenty or so years. This is partly the result of the expansion of cattle farming into wildlife areas through government subsidies for drilling of boreholes for watering livestock. This penetration of livestock into wildlife areas tends to push wild animals into increasingly smaller 'sanctuaries' where their populations remain in constant threat of deterioration (Mbaiwa, 1999).

The encroachment of livestock into wildlife areas is also coupled with the erection of veterinary fences in Botswana, which block wildlife migratory routes. The veterinary fences trap and kill wild animals, or prevent wildlife from migrating to water sources especially during the dry season, leading to high wildlife mortality rates. According to Perkins and Ringrose (1996), these veterinary cordon fences, which continue to be erected in order to maintain access to European beef markets, have contributed significantly to the decline in wildlife numbers. As such, the decline in Botswana's wildlife resource is directly correlated, amongst other factors, to agricultural production in the country (Mbaiwa, 1999).

5.4.2.14 Veterinary Cordon Fences

Due to the prominence of the cattle industry and the large socio-economic value it holds, the Department of Animal Health and Production is preoccupied with protecting Botswana's cattle herds from various diseases, including the highly contagious Foot and Mouth Disease and Chronic Bovine Pleuropneumonia (Kalikwe, 1997). It is believed, that wildlife infected with the Foot and Mouth Disease virus pose a constant threat to disease-free cattle herds as there is always the possibility of inter species contamination, such as between buffalo and cattle (Kalikwe, 1997).

Botswana is a very flat country, lacking natural boundaries such as large rivers or mountain ranges. It also uses the tradition of communal grazing areas, where cattle are allowed to graze freely. These two factors make it almost impossible to control

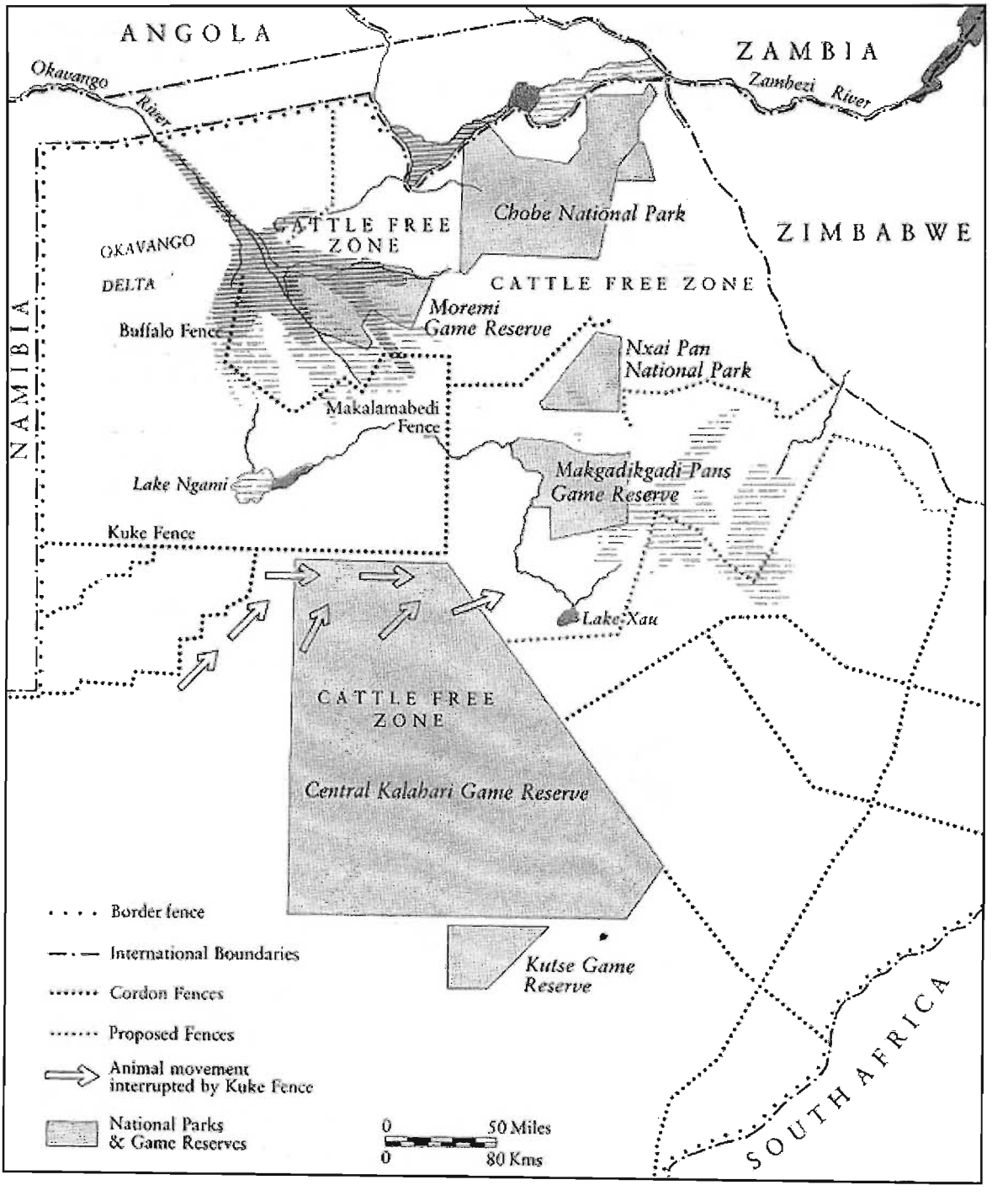
animal movement. Thus, herds of cattle can be contaminated by the Foot and Mouth Disease virus through disease carriers which have traversed the country, from one end to the other. The use of fences is therefore a valuable tool in disease control (Raborokgwe, 1998). By limiting animal movement, whether it is wildlife or livestock, the spread of this disease can be reduced and controlled effectively.

However, as noted by Kalikawe (1997), these fences have had a negative impact on wildlife. These impacts include various direct effects on the animals as well as the socio-economic aspects that have been created. Direct wildlife deaths do occur on a large scale via the animals being caught, trapped or tangled on the fences. There has also been a steady decline in animal populations due to the wildlife being cut off from their vital resources such as seasonal water, food and breeding grounds, as shown in Figure 5.9. There is also a disruption of migration movement patterns due to this, and the fences have led to the concentration of animals into smaller areas, where territories and home spaces are inadequate. Furthermore, illegal hunting of wildlife has increased excessively along the fence lines leading to a decline in animal numbers.

Botswana began an extensive fencing programme in the early 1950s when beef exports from cattle farming started making a significant contribution to the economy (Raborokgwe 1998). According to Owen and Owen (1985), the Cape buffalo and other antelope species such as kudu and eland can carry the Foot and Mouth Disease virus. Veterinary cordon fences were therefore built to segregate the country's stock population of cattle from wild herds. These fences were also used to separate infected cattle from other disease – free herds and to divide the cattle - farming land into sectors that could quickly be sealed off in the event of an outbreak.

Various veterinary cordon fences were set up to criss-cross the northern areas of Botswana as this was often where the outbreaks first occurred. Such fences included the Kuke fence which was constructed in 1958 to form the southern boundary of the Ngamiland District. The purpose of this fence, together with the Dibete cordon fence, was to prevent the movement of cattle south, and reduce the threat of Foot and Mouth Disease spreading southwards. The Buffalo Fence and the

Figure 5.9: Map of Botswana showing the various fences constructed to control the spread of Foot and Mouth Disease



*The proposed fences shown on this map have now been erected across the country.

Source: Ross, 1987

Prefodiafoka fence constructed in 1982 and 1996, respectively, helped separate cattle from buffalo carrying the Foot and Mouth Disease virus (Raborokgwe, 1998). Kalikawe (1997) notes that these and other fences were often constructed under emergencies as a response to disease outbreaks and as such no Environmental Impact Assessments were undertaken before they were built.

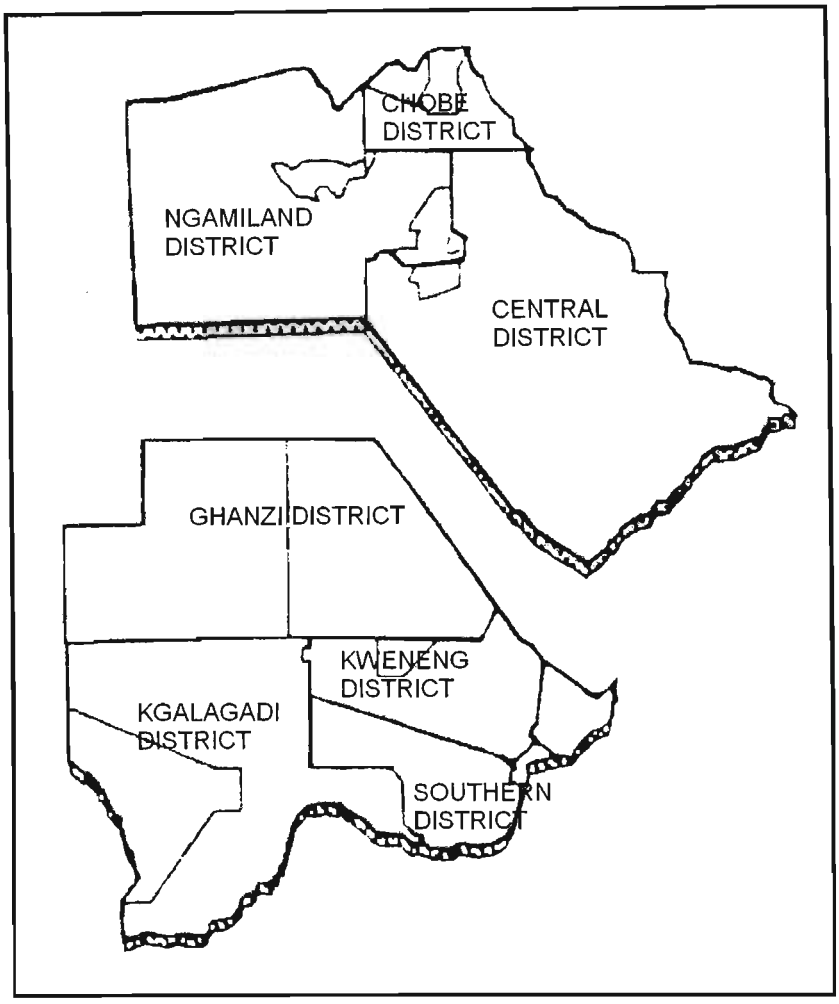
Apart from this, Raborokgwe (1998) shows that many of the fences constructed have provided some positive impacts on their surroundings. The Southern Buffalo Fence has actually saved the Okavango Delta from being overrun by livestock during successive years of drought. The fences set up in the north-western part of the Ngamiland district also contained the spread of the Chronic Bovine Pleuropneumonia disease from engulfing the rest of the country, thus saving many of the cattle herds from the disease.

These policies have, however, also led to much controversy as many research veterinarians disagree on the effectiveness of this means of disease control (Broekhuis, 1998). Even so, it has been demonstrated that the use of these veterinary cordon fences have stopped the spread of Foot and Mouth Disease not only across the country but also from one neighbouring country to the next. As noted by Raborokgwe (1998), the Foot and Mouth Disease outbreak of 1980 was traced to the smuggling of infected cattle from Namibia. Fences which have since been constructed on the northern border between Namibia and Botswana have helped keep outbreaks of Foot and Mouth Disease out of the country.

5.4.2.15 The Impact of Fences on Migration Patterns

According to Ross (1987), there are over 3 000 kilometres of fences throughout Botswana, and most of these were constructed with little forethought as to what their impact would be on the habitat and migration patterns of wild animals. Due to the presence of the veterinary cordon fences, Botswana is now divided into two relatively distinct "functional systems". As shown in Figure 5.10, the districts of Kgalagadi, Ghanzi and Kweneng make up the Southwestern System and Ngamiland, Chobe and the Central districts comprise the Northwestern System (Crowe, 1995).

Figure 5.10: Map of Botswana showing how the country is now divided into two distinct systems



Source: Crowe, 1995.

Movement of wildlife as noted by Ross (1987) is restricted between the two and within the systems. Within the Southwestern System, wildlife movements are inhibited by the Kuke veterinary fence and the eastern boundary of the Central Kalahari Game Reserve. Human settlements and livestock also add to the increasing pressure placed on the wildlife, especially in the Kweneng District. The Northeastern System restricts animal movement to and from the Okavango Delta via the Buffalo fence.

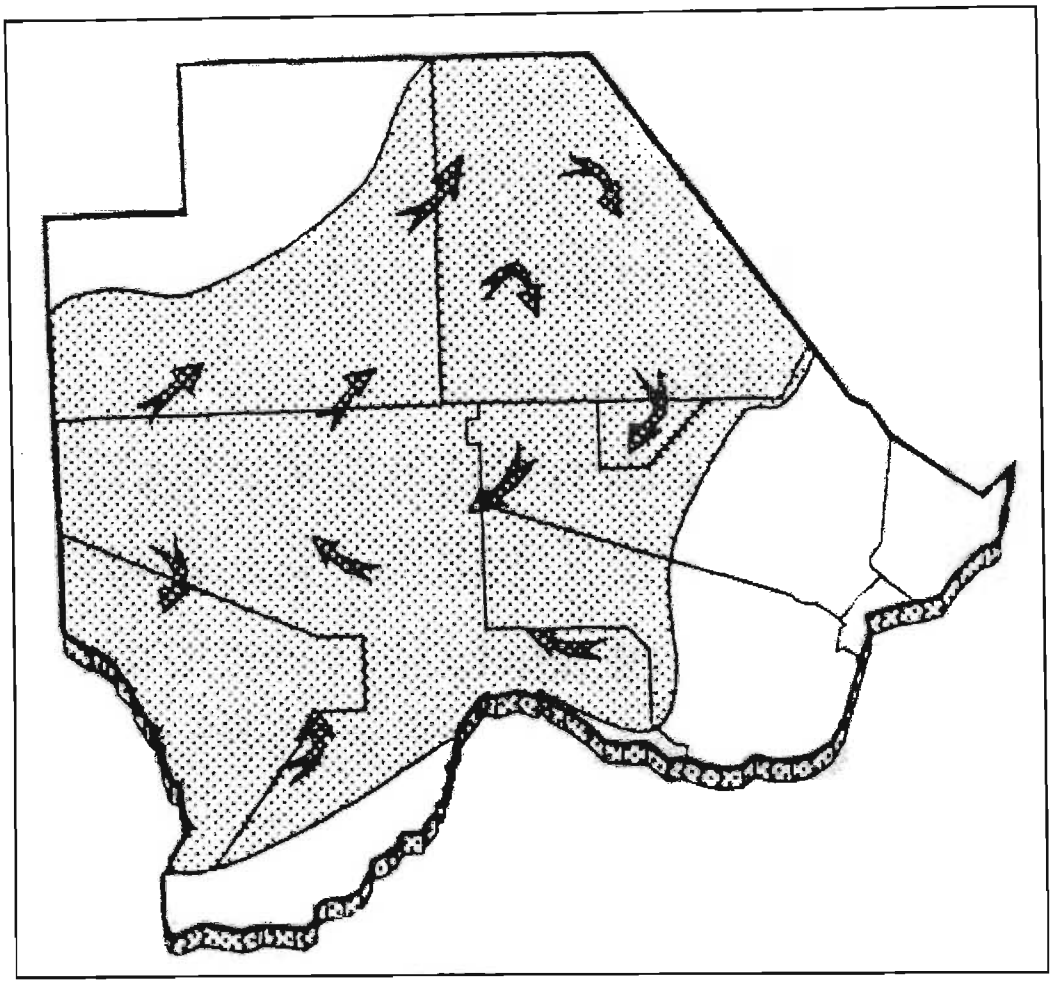
According to Owens and Owens (1985), the restrictions that the veterinary cordon fences have caused have led to devastating effects on the wildlife populations of Botswana. Ross (1987) shows that in times of drought, when the rains have failed

for several consecutive years, the devastation that the fences and the increasing livestock population has on the wildlife can be seen on the largest scale. Wildebeest are often the most seriously affected species in the Southwestern System since they are completely dependent on water. The largest concentration of wildebeest during the wet season is along the boundary between the Ghanzi and Kgalagadi districts. However, their migration to the permanent water of the Okavango Delta in the dry season is restricted due to the Kuke Fence (Crowe, 1995). This restriction has caused a vast reduction in the wildebeest population. As Ross (1987) shows, the drought years of the 1980s had a huge effect on the wildebeest population, where approximately 52 000 of the 80 000 wildebeest that migrated died.

Eland and hartebeest populations have also been greatly affected by the construction of the veterinary cordon fences. The hartebeest in the Southwestern System historically migrated in a north-easterly direction from the Kgalagadi and Ghanzi districts. This movement however, is now restricted due to the construction of fences and an increasing amount of human settlements in the area. Hartebeest numbers have therefore declined dramatically in the last 15 years, resulting in a loss of 83% of the population. As shown in Figure 5.11, the combined seasonal distribution of wildebeest, hartebeest and eland requires a vast area to sustain these populations over the long term. It is obvious that this movement can not be accomplished due to an increasing human population in Botswana (Crowe, 1995).

Taolo (1997) notes that a comparison of the distribution of the biomass of wild species with that of domestic livestock suggests that the two seem to be mutually exclusive and thus wildlife numbers will only increase in areas where the livestock biomass has decreased. It is likely that with continued livestock expansion, wildlife will be displaced. This creates an inverse relationship between the wildlife and livestock populations, a relationship which is a reflection of human distribution and a result of the disturbance to the wildlife migration patterns to which this distribution has contributed.

Figure 5.11: The combined seasonal distribution of wildebeest, hartebeest and eland



*The arrows indicate the general pattern of seasonal movement as the animals search for food and water.

Source: Crowe, 1995.

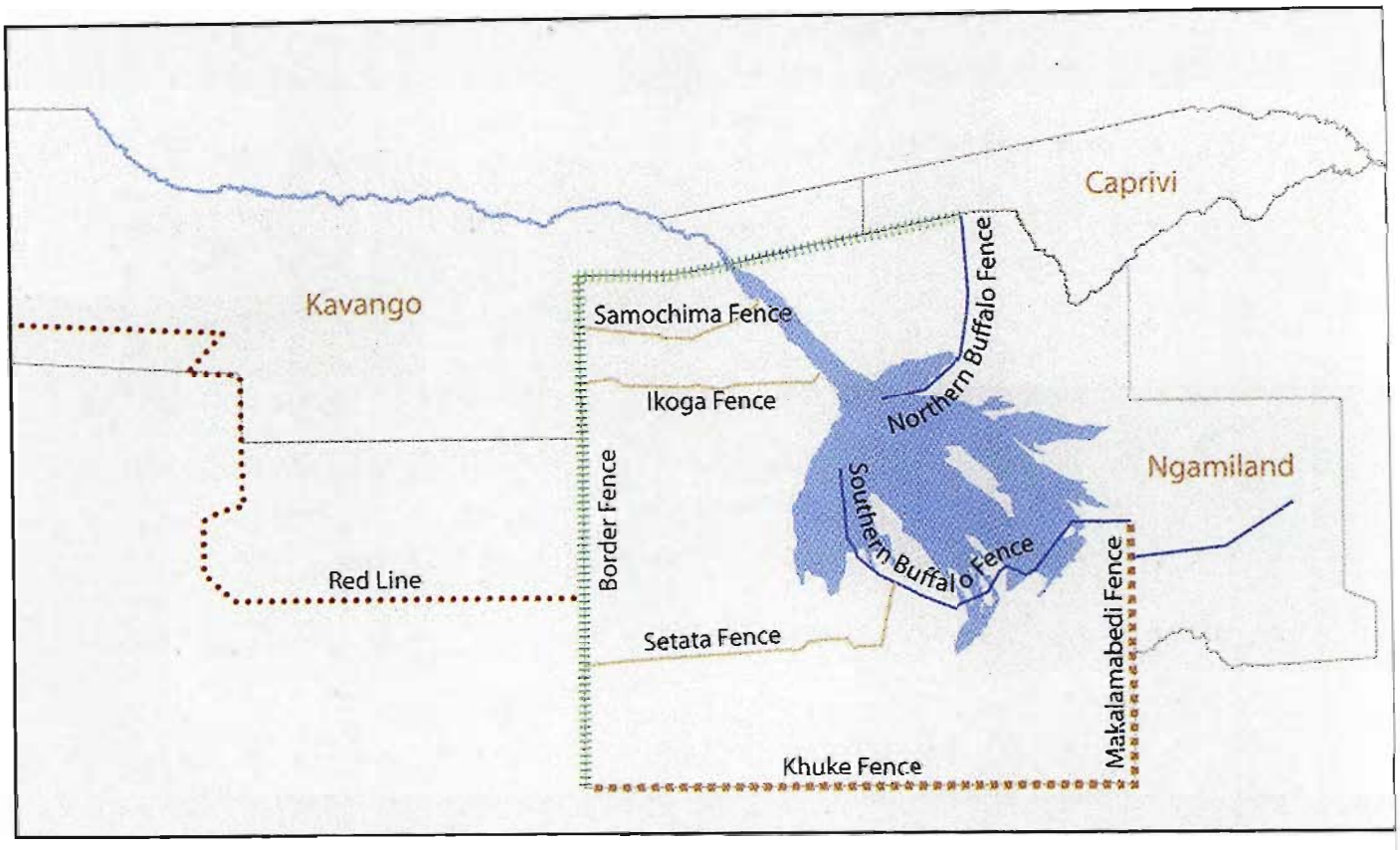
5.4.2.16 The Okavango Delta and the Fences

Even though large numbers of wildlife died along the fences while seeking water during droughts, in a notable 'turning of the tables', during similar drought periods in the Okavango region in the early 1980s the fences in fact ensured that cattle could not gain access to the Delta's resources, preserving them for the wildlife that lived in the region. During these severe droughts there were constant demands that the Southern Buffalo Fence be dropped to allow ranches access to the Delta's grazing

and water, but fortunately the Botswana Government refused, and for once the fences served the interests of the wildlife (Bailey, 1998).

Prior to the fences being erected, the Okavango region had been protected from cattle largely by the presence of tsetse fly. After the tsetse fly population plummeted during the rinderpest epidemic in 1894, the entire region was opened up to cattle farmers: cattle posts and trails spread across the area, especially in areas close to waterways like the Khwai River. However, the fly population recovered before the cattle had become too entrenched here, and humans and their herds were once again driven to the periphery of the Delta – where, with the help of the fences (which today virtually surround the Delta) they have remained (Figure 5.12). Today, thanks to the use of chemical poisons, tsetse fly populations no longer protect the Delta, and it is solely the veterinary fences, which initially so enraged conservationists and environmentalists, that protect the area from large-scale cattle ranching activities. In effect the fences have created a protected wilderness area far larger than any of the ones formally in existence. Together with Moremi Game Reserve, the Chobe National Park to the northeast, and the buffer zones of the peripheral wildlife management areas and controlled hunting areas, the Okavango is one of the largest wilderness areas left in the world today. With the enclosing fences, it is probably one of the more secure (Bailey, 1998).

Figure 5.12: Veterinary Fences in the Ngamiland District



Source: Mendelsohn and el Obeid, 2004.

5.5 Summary and Conclusion

The daily activities of human beings, communities and countries are interrelated with population change, patterns and levels of natural resource use, the state of the environment, and the pace and quality of economic and social development. Persistent and widespread poverty, as well as social and gender inequalities, have significant influence on, and are in turn influenced by demographic parameters such as population growth, structure and distribution. Similarly, unsustainable consumption and production patterns contribute to the unsustainable use of natural resources, leading to environmental degradation, hence reinforcing social inequalities and poverty, which, in turn, have dire consequences for demographic parameters. This is a vicious cycle which demonstrates the interconnectedness of these variables and thus the interrelationships between population, sustained economic growth, the environment and sustainable development (Republic of Botswana National Development Plan 9, 2003).

It is in the context of the above that this chapter provided a broad overview of the country of Botswana, concentrating on its economy, socio-economic profile and demographic characteristics. It also provided an overview of the study area, the Okavango Delta in northern Botswana, focusing on general demographics, the history of the development of the tourism industry and natural resource utilisation in this region, and an overview of government policies impacting upon tourism and natural resources. The next chapter presents a detailed analysis of the Okavango Delta's Tourism industry, and focuses on the economic impact of this tourism development on the Okavango Delta region.

CHAPTER SIX

The Okavango Delta's Tourism Industry

6.1 Introduction

One of the major challenges facing Botswana, and the Okavango Delta region, in the Twenty First Century is the attempt by the government to bring about development and modernisation in the area through the creation of a world-class tourism industry, without compromising the livelihoods of its local inhabitants, or the environmental and natural resources upon which this industry is based. The implementation of policies controlling hunting, and land and natural resource use since the late 1800s has ensured that the Okavango Delta has remained, for the most part, unspoiled by modern development. However, the development of tourism in the region over the past two decades has brought about unprecedented changes to the Delta in the form of infrastructural development, economic growth and employment opportunities. As the Delta's tourism industry grows, its social, environmental and economic impacts are increasingly transforming, in both positive and negative ways, the Delta's environment, population and local economy.

This chapter presents an overview of the Okavango Delta's tourism industry. It focuses on the type and origin of tourists visiting the Delta, the tourism accommodation sector and the growth of enclave tourism in the region. Lastly, it assesses the economic impact of the tourism industry in the Okavango Delta area.

6.2 Tourism in Botswana

In an attempt to develop the tourism industry in a coordinated and consistent manner, the Botswana Government formulated the Tourism Policy of 1990. This policy emphasised the promotion of an up-market orientated, 'high-cost, low-volume' tourism industry, discouraging an influx of low-income tourists whose impact can cause irreparable damage to fragile ecosystems. The policy seeks to target the high

income, and presumably high spending segments of the tourist originating markets, that are more likely to take advantage of existing permanent accommodation, given their higher purchasing power. The policy also aimed at ensuring that the Batswana benefited from the development of the tourism industry through the implementation of projects such as the Community-Based Natural Resource Management (CBNRM) programme. Such attempts to balance the country's objective of maximising revenue earnings while considering the fragile ecology upon which the industry is based are generally regarded as being far-sighted and unique within a Third World tourism industry (http://www.safariweb...htm; http://www.gov.bw...html).

Botswana has, however, also developed a tourism industry that encourages the growth of high-cost, exclusive hotels and safari camps, and this has led to the emergence of 'enclave tourism'. Foreign owned hotels, lodges and safari camps are established to meet the demands of foreign tourists and generally fail to take into account the needs and demands of surrounding local communities. Most tourist facilities and services in Botswana, and particularly the Okavango Delta are owned and managed by whites, some of whom are Botswana citizens. This situation can be attributed in part to the government's policy of high-cost, low-volume tourism which tends to directly exclude local communities from participating in tourism businesses as they lack the necessary skills and financial capability to invest in the industry (Mbiawa, 2001).

The tourism industry in Botswana is still in its infancy, and while attractions such as wildlife and pristine natural areas have always existed within the country, tourism development has been hindered by several factors (Silisthena and McLeod, 1998). Tourism development in Botswana, prior to the 1990s, was partly retarded by the political instability present in the southern African region. Even though Botswana was politically stable, instability in South Africa, Namibia (South West Africa), Mozambique, Zimbabwe and Angola reflected negatively on the entire region, hampering tourism growth (Cooke, 1990; Fowkes, 1990; Tsiang, 1990).

Prior to the 1990s, Botswana's lack of infrastructure also inhibited tourism growth. The country's road network was basic and underdeveloped, with tarred roads present only in the more urban areas, and other forms of transport, such as commercial air travel, almost non-existent. A further hindering factor was the fact

that the country's location was far from any major international tourist destinations, popular with European and North American tourists. Botswana was not historically considered a tourist destination overseas, but rather was perceived by many Europeans and North Americans as being part of South Africa (Tsiang, 1990; Silisthena and McLeod, 1998).

Early efforts to develop tourism in the 1960s in Botswana were minimal, as any emphasis was limited to trophy hunting (Tsiang, 1990; White, 1995). A lack of awareness by government planners of the potential economic benefits of tourism may have stifled the growth of the industry in Botswana prior to the 1990s. This meant that the tourism industry was left to its own devices by a government pre-occupied with more pressing developmental priorities such as health, education and infrastructure. As a result, tourism in the country began to develop slowly, in a rather uncontrolled manner. However, the explosive growth of the industry in the late 1980s, with the return of peace and political stability to the southern African region, led to a proliferation of camps in the primary tourist area, the Okavango Delta. This brought the realisation by the government that the country's main tourist attraction was being threatened with degradation (Pfotenhauer, 1990; Tsiang, 1990; Silisthena and McLeod, 1998).

As international tourists and tour operators started arriving in Botswana in the late 1980s, the government became aware of the potential contribution of tourism to the economic development of the country. The growth of the tourism industry during this period, however, also resulted in a number of problems gradually coming to the fore. These included serious land-use conflicts, a lack of skilled citizens in the sector, a Tourism Division and Department of Wildlife and National Parks which were inadequately staffed, over-use of some tourism areas and under-use of others, and littering and fouling of reserve areas, alarming in its range and rapid emergence (Pfotenhauer, 1990). Additionally, the fact that the industry was primarily run by expatriates who catered almost exclusively to foreign tourists led to growing suspicion, mistrust and a lack of understanding between the Batswana, especially those living near tourist areas, and tour operators and their clients. Pfotenhauer (1990) states that at the time, domestic tourism was almost non-existent and hence, more Batswana came to believe that national parks and game reserves were primarily for tour operators to set up businesses to cater to wealthy foreigners.

Although several researchers noted a host of problems in the tourism sector, there was little consideration as to how they should be addressed, except for the establishment of the Tourism Division.

Botswana's tourist attractions rely heavily on two products: wildlife resources and wilderness experience in the northern part of Botswana. Even though other resources exist, such as museums, relics and cultural activities, they have not yet been fully tapped to diversify the country's tourism range (Government of Botswana, 1997). This therefore reflects the infant stage of the tourist sector in Botswana and the lack of a comprehensive planning framework. To date, no comprehensive study has been carried out in Botswana to assess the potential of cultural tourism, and its role in diversifying the country's tourism industry.

Plans for the further development of Botswana's tourism industry include regional cooperation with South Africa, a gradual relaxing of the present 'high-cost, low-volume' policy, and the development of domestic tourism. The 'high-cost' policy has been previously enforced due to the perceived delicate eco-structure of Botswana's major tourist attraction, the Okavango Delta. It was aimed at keeping tourist numbers at a minimum, while maintaining revenues. There is now a move towards involving local communities in the development of attractions based on traditions and culture, as opposed to only wildlife, as was previously the trend (http://wildnetafrica. co.za...Botswana).

Botswana secured P8,3 million in 1997 from the European Union to develop a tourism programme and extend a financial assistance scheme to investors in the tourism industry. It was acknowledged that the general tourism pricing structures were not only killing off domestic tourism, but sending international tourists to other destinations. As Ms. Tswelopele Moremi, Permanent Secretary in the Ministry of Commerce and Industry, which was responsible for tourism up until 2003, stated, "...we may have gone overboard in some areas. We must maintain our competitiveness, especially with South Africa, and bring some destinations within the reach of our own people" (p. 1). However, there have presently been few changes, since 1997, in the structure of Botswana's tourism industry (http://wildnetafrica.co.za...Botswana).

Regardless of attempts to involve the local population in the tourism industry, most Motswana have never been significantly exposed to it, and have received no real benefits from its development (http://wildnetafrica.co.za...Botswana).

There is concern that the Batswana are not aware of the potential of tourism, nor supportive of its conservation, due to a lack of understanding by the local population of the industry, and because most Motswana experience no benefits from tourism. There is a need to develop special packages to encourage the Batswana to enjoy tourist facilities, particularly during the low season. The focus of tourism should not rest solely on wilderness, so as to open up other areas of the country to benefit from tourism revenues. As Ms. Tswelopele Moremi stated "...tourism in Botswana should not just be about wildlife and wilderness. There is a need to blend our tourism with our culture, sports and the protection and development of historical sites, national monuments and museums" (http://wildnetafrica.co.za...Botswana, 2003, p. 2).

In economic terms, tourism in Botswana has steadily grown in importance since the early 1990s, and increasingly has the potential to become the country's key engine of growth. Tourism currently contributes 6 percent to GDP and employs 4,2 percent of the total population. Tourism contributes approximately P270 million per annum, and hotel capacity has increased to 70 percent over the years due to the construction of more hotels. Botswana contains many possibilities for tourism investment, and while there is a move towards more ownership and investment by local people, foreigners are still welcome, especially those with experience and the ability to provide local employment and the ecologically sustainable development of Botswana's natural resources. The Minister of Commerce and Industry has predicted that tourism will be a one billion Pula industry by 2015 (http://www.botswana-online.com...htm).

The weaknesses in Botswana's current tourism industry include the fact that the geographical investment base is too small, as it is concentrated in the north and northwest. Access by tourists is also difficult in many places, while distances that must be travelled to reach popular tourist destinations are vast. The public sector also lacks awareness of the tourism industry imperatives, while there is a chronic shortage of local management and technical skills (Mmegi, 2002).

In order for local Botswana citizens to become involved in the tourism industry in any significant way, there is a need to put aside 'personal jealousies and prejudices', in order to bring together experienced locals who could form consortia to buy into and/or buy out from well established larger tourist operators (Mmegi, 2002).

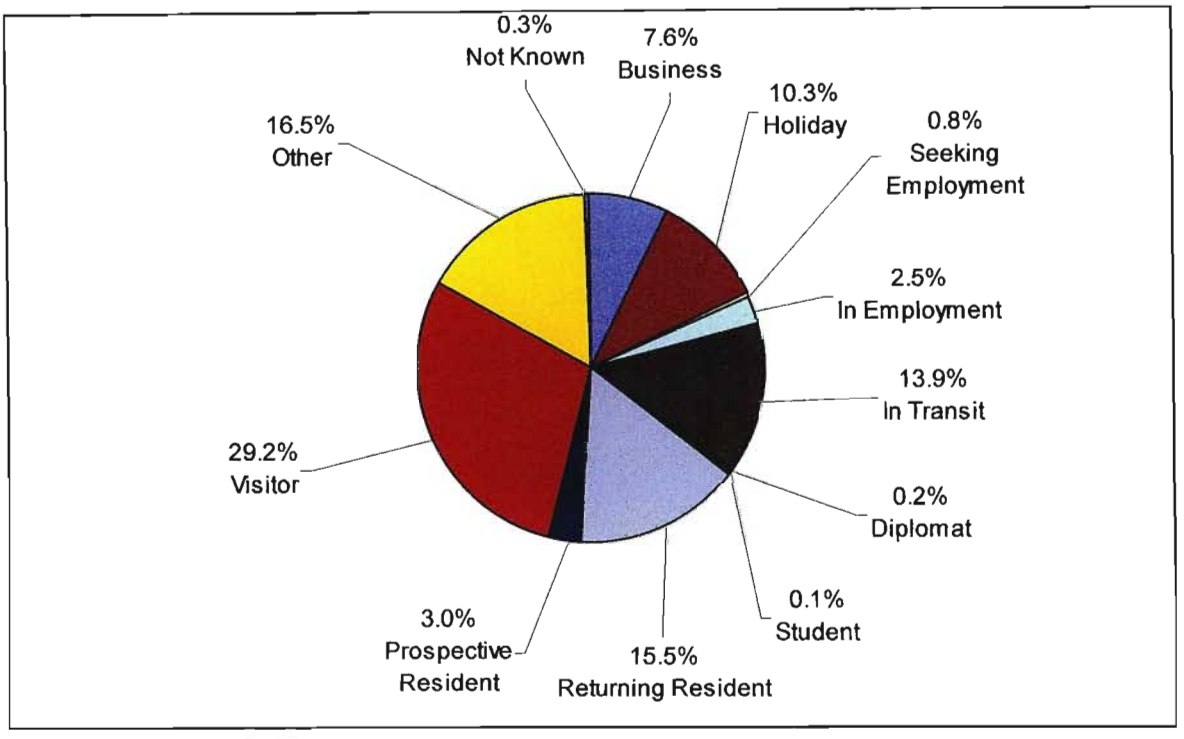
Botswana prides itself on high tourist standards due to the 'low-volume, high-value' concept. This, however, is not necessarily true. The standards of services in many tourist areas do not match, or give value for the rates charges. There is also a danger of tourist products on offer, such as the uninhabited and unspoiled wilderness areas of Botswana being destroyed through inappropriate or unplanned development. Due to the segregation of most of the local population from the tourism industry, there is an increasing risk of xenophobia, or resentment towards foreigners by Motswanas, which quickly alienates the sector, and hence potential foreign investors (Mmegi, 2002).

Table 6.1: Total Arrivals in Botswana by Purpose of Entry

	Business	Holiday	Seeking Employment	In Employment	In Transit	Diplomat	Student	Returning Resident	Prospective Resident	Visitor	Other	Not Known	Total
1997	87 241	185 996	7570	61 250	140 765	8900	3744	157 731	32 790	298 964	20 515	157 308	1 162 774
1998	113 729	205 146	8443	70 305	225 012	18 434	4903	174 796	28 346	319 440	42 588	140 656	1 351 798
1999	118 779	237 618	7643	75 339	256 836	5008	3518	201 759	46 402	431 590	63 972	189 485	1 637 949
2000	143 304	316 847	3827	33 111	268 597	3360	4089	296 179	18 630	509 346	158 699	389 381	2 145 370
2001	132 012	306 980	1621	12 223	251 427	3618	2461	264 608	3775	484 140	207 063	61 393	1 731 321
2002	146 437	197 219	15 201	48 602	265 697	3689	2789	296 680	57 986	560 054	316 838	6627	1 917 819

Source: Adapted From Republic of Botswana Statistical Bulletin, 2004.

Figure 6.1: Percentage of Total Arrivals in Botswana by Purpose of Entry for 2002

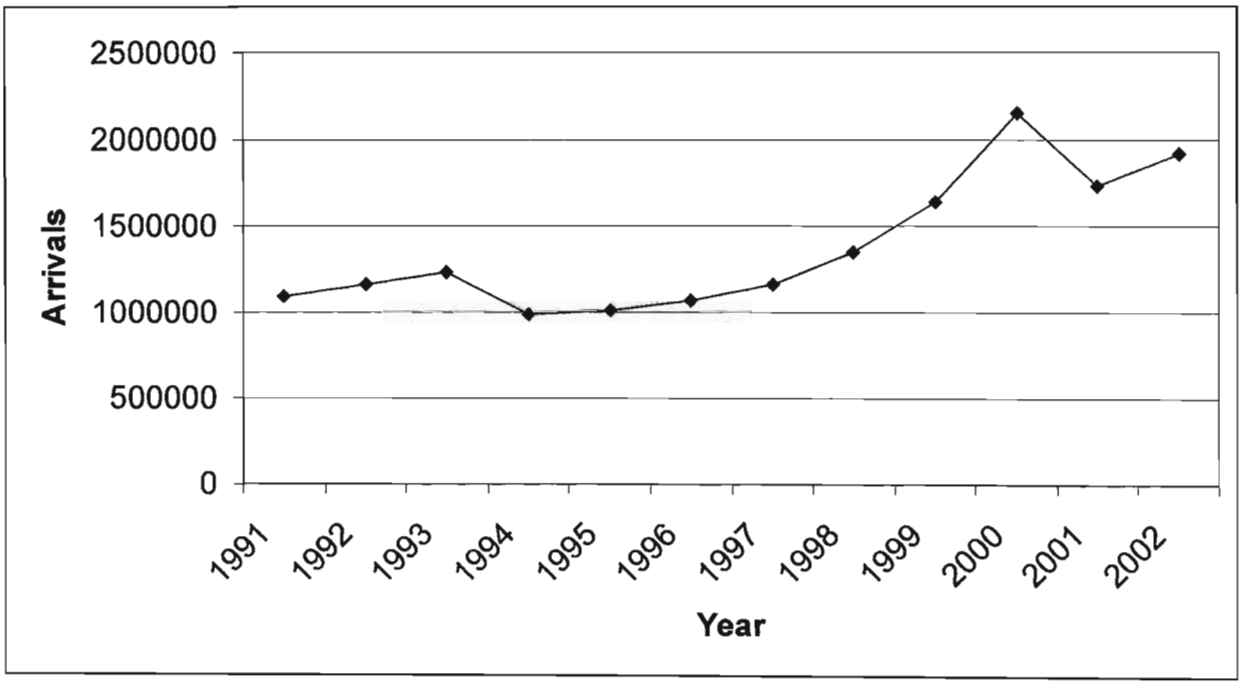


Source: Adapted From Republic of Botswana Statistical Bulletin, 2004.

As can be seen from Table 6.1, total arrivals in Botswana increased by 9.7 percent from 2001 to 2002. Most of these arrivals were recorded during the third and fourth quarters of 2002. The most common reason for arrivals was either visiting friends or family, in transit to other countries or spending a holiday in Botswana (Figure 6.1). As can be seen from Table 6.1 and Figure 6.2, there was a reduction in the number of total arrivals for 2001 and 2002, compared to the Year 2000 figure of 2,1 million. This in proportional terms implies a decline of 19,3 percent for 2001 and 10,6 percent for 2002. The general pattern of arrivals for the past years shows that the arrivals have been increasing since 1994 (Figure 6.2). There is no clear explanation why the number of arrivals ultimately declined in the year 2001. Figure 6.2 shows the trends for these arrivals since 1991. It can be observed that the number of arrivals increased in 1991 from 1,1 million to 1,2 million in 1993, then reached a lower figure of less than a million in 1994, before making an upward trend until the Year 2000 (Republic of Botswana Tourism Statistics, 2001; Republic of Botswana Statistical Bulletin, 2004).

Figure 6.2: Table and Chart Showing Total Arrivals in Botswana From 1991 to 2002

Year	Total
1991	1 096 440
1992	1 160 651
1993	1 232 546
1994	988 473
1995	1 011 057
1996	1 071 121
1997	1 162 774
1998	1 351 798
1999	1 637 949
2000	2 145 370
2001	1 731 321
2002	1 917 819



Source: Adapted From Republic of Botswana Tourism Statistics, 2001; Republic of Botswana Statistical Bulletin, 2004.

The majority of the arrivals in Botswana in 2002 were from neighbouring southern African states, in particular South Africa, Zimbabwe, Namibia and Zambia, with South African and Zimbabwe constituting 62,2 percent of the total foreign arrivals (Table 6.2). A significant number of arrivals also came from the European countries, the United States of America, and other parts of Africa. The same trend was also observed in 2001 (Table 6.2).

The total hotel turnover for the Year 2000 (for hotels that responded to the survey) amounted to Pula 86.7 million, which was a sharp decline from the 1999 value of Pula 144 million (Table 6.3). This is, however, mainly due to the apparently very low response rate experienced in Botswana from hotels in 2000, and is therefore not a clear representation of the total hotel turnover. The accommodation sector netted the highest income of Pula 43 million, followed by meals at Pula 17.8 million (Table 6.3). The highest total turnover during the year was recorded in August (Botswana's peak tourist month) at Pula 30.1 million (Republic of Botswana Statistical Bulletin, 2004).

The next section concentrates more specifically on tourism in the Okavango Delta, the focus of this study.

Table 6.2: Total Arrivals in Botswana by Country of Residence

	Botswana	Angola	Lesotho	Malawi	Mozambique	Namibia	Swaziland	Zambia
1997	151 723	402	4726	3977	727	44 887	3338	44 429
1998	198 939	340	3747	3089	705	73 903	3291	46 520
1999	227 960	221	4041	3904	752	62 388	3871	50 257
2000	326 921	394	5124	4971	754	82 738	3997	82 564
2001	282 740	270	2691	3554	712	63 747	3366	64 436
2002	314 835 (16.4%)	737 (0.03%)	3956 (0.2%)	4374 (0.2%)	751 (0.04%)	68 792 (3.6%)	4117 (0.2%)	91 097 (4.8%)

	Zimbabwe	Tanzania	RSA	Mauritius	Republic of Congo	Seychelles	Rest of Africa	Total Africa
1997	291 745	1540	492 020	485	82	30	**4480**	**981 591**
1998	247 092	1253	540 383	361	52	50	**3249**	**1 122 974**
1999	377 002	1202	652 191	411	43	50	**3446**	**1 387 739**
2000	477 130	1513	858 311	692	10	90	**5151**	**1 850 270**
2001	425 992	1500	662 379	480	-	20	**3914**	**1 515 781**
2002	533 421 (27.8%)	1619 (0.08%)	658 648 (34.3%)	690 (0.04%)	141 (0.007%)	30 (0.001%)	**5209 (0.3%)**	**1 688 418 (88%)**

	Germany	Uk and Ireland	Rest of Europe	USA	Rest of America	Asia	Oceania	Not Known	Grand Total
1997	15 788	29 681	27 214	15 684	2882	10 116	10 477	69 341	**1 162 774**
1998	16 387	27 926	73 472	18 674	3527	7491	11 913	113 747	**1 351 798**
1999	17 398	29 949	30 839	26 588	4288	7725	10 870	121 870	**1 637 949**
2000	18 813	32 616	38 855	33 598	5909	11 792	13 823	139 604	**2 145 370**
2001	10 348	22 316	29 051	24 345	4011	9379	7924	108 146	**1 731 321**
2002	13 940 (0.7%)	24 964 (1.3%)	30 103 (1.6%)	23 719 (1.2%)	3844 (0.2%)	12 338 (0.6%)	9800 (0.5%)	110 693 (5.8%)	**1 917 819**

Source: Adapated From Republic of Botswana Statistical Bulletin, 2004.

Table 6.3: Total and Average Monthly Hotel Turnover for Botswana

year	1999	2000
Number of Hotels Responding	383	370
Total Turnover	144 155 665	86 746 288
Monthly Average Turnover	376 386	234 449
Accommodation	66 010 746 (45.8%)	42 996 174 (50%)
Meals	41 216 388 (28.6%)	17 885 919 (20.6%)
Bar Sales	10 444 306 (7.2%)	9 509 489 (11%)
Other	26 484 225 (18.4%)	16 354 706 (18.9%)

Source: Adapted From Republic of Botswana Statistical Bulletin, 2004.

6.3 Tourism in the Okavango Delta

The Okavango Delta has long earned its prime position as Botswana's most popular, year-round tourist destination due to its crystal clear, clean and bilharzia-free swamp waters, and vast array of animal, bird and plant life. The Okavango region encompasses a core myriad of wetlands and floodplains, boarded by vast expanses of mopane and acacia forests, Kalahari savannah, rolling dunes and fossil valleys. This wildlife refuge, stronghold of one of Africa's last free-ranging wildlife populations, stands in stark contrast to the small fenced pockets that sadly now symbolize most of the continents vanished wildlife heritage (OPWT, 1998; http://www.safariweb.com...htm).

As the cornerstone of Botswana's tourism industry, the Okavango Delta is a vital source of foreign revenue. Local communities, increasingly aware of the value of wildlife, are looking towards tourism as their path to economic empowerment. As the

earth's wilderness areas shrink rapidly, the Okavango Delta is becoming an increasingly treasured global resource. It therefore deserves urgent attention as a priority conservation area (OPWT, 1998).

6.3.1 Profile of Tourists in the Okavango Delta Region

There are generally four main types of tourists that visit the Okavango Delta every year. These are the 'high-cost' tourists, the mobile safari tourists, the 'low-cost' independent tourist, and safari and trophy hunters.

6.3.1.1 The 'High Cost' Tourist

The most important type of tourist visiting the Okavango Delta are the 'high cost' tourists. According to Borge *et al* (1990), this type of tourist chooses to stay in a permanent camp/lodge operated by private camp operators/owners. In the Okavango Delta 'high cost' tourists generally come from Europe, North America and New Zealand/Australia. These clients usually fly into Maun from Johannesburg or Windhoek, from where they are flown directly to their camps/lodges in the Delta. This type of tourist is termed 'high cost' by several groups (including the government), as a high price is generally paid for the tourism package in advance, and the client is usually confined to camps/lodges owned by the company from which they bought their package. Such tourists generally pay around US$ 6 000 for a safari package in the Delta. They usually visit two to three camps/lodges owned and operated by the same company, spending two to three nights at each (Borge *et al*, 1990; Ndubano, 2000; Main, 2001).

6.3.1.2 The Mobile Safari Tourist

The second most important type of tourist visiting the Okavango Delta is the 'mobile safari' tourist. This type of safari tends to be less costly than a permanent camp/lodge package, but certain aspects of the costs are comparable. Mobile safari tourists tend to stay in both public, private or Hotel and Tourism Association of Botswana (HATAB) campsites. Like the 'high cost' tourists they also fly into Maun, from where they depart on a circuit of 'bush camping' in the Delta. Mobile safaris take from 5 to 21 days, with fees ranging from US$200 per night to US$ 6 000 for

the more up-market packages. Mobile tourists in the Okavango Delta also include those who are on tours that encompass the wider east and southern African wilderness areas. Such trips are usually done in overland trucks and can take up to several months, commencing in South Africa and ending in Kenya or Tanzania or vice versa (Borge *et al*, 1990; Ndubano, 2000; Main, 2001).

6.3.1.3 The Independent or 'Low-Cost' Tourist

The third type of tourist that visits the Delta is the 'independent' or 'low cost' traveller. This tourist travels independently, relying on his/her own resources, and is not part of an organised tour group. These tourists may drive independently, hire a guide or charter a flight. The distinguishing feature of these travellers is that they generally do not pay a 'package price' before entering Botswana, and they tend to use public facilities such as park campsites run by the Department of Wildlife and National Parks (DWNP) in protected areas or privately owned campsites elsewhere. This type of tourist is termed 'low cost' due to the assumed low expenditures they incur while in the Delta. Independent tourists often visit Botswana from neighbouring countries such as South Africa and Namibia, travelling in private four-wheel-drive vehicles, often as family groups. However, in some cases visitors combine different types of travel such as taking a mobile safari as well as driving into the National Parks and Game Reserves independently (Borge *et al*, 1990; Mbaiwa, 2002).

6.3.1.4 Safari Hunters

Safari hunters also form an important part of the tourism industry in the Okavango Delta. They generally come from North America and Europe, and a typical safari hunter in the Delta generates more revenue than a photographic tourist, making the industry, in economic terms, more important than non-consumptive tourism (Main, 2001).

6.3.2 Annual Tourist Numbers

As can be seen from Table 6.1, foreign arrivals in Botswana are categorised by the Central Statistics Office (CSO) into business, transit, holiday/tourist, visitor, etc. This study focuses specifically on the holiday/tourist and visitor groups, with particular

reference to the Okavango Delta region. The Department of Tourism (2001) and the Central Statistics Office (2004) notes that tourist and visitor arrivals in Botswana have grown considerably from 484 960 in 1997 to 826 193 by the Year 2000 (Table 6.4). These findings correspond with those of the World Trade Organisation (2001) which noted that approximately 800 000 individuals visited/holidayed in Botswana in 2000. This increase in visitors between 1997 and 2000 represents an annual growth rate of approximately 15 percent. However, as can also be seen from Table 6.4, visitor/tourist numbers to Botswana experienced a decline after 2000, from 826 193 to 757 273 in 2002, a decline of 8.3 percent, or 4.2 percent annually. Several factors can be mentioned which may have contributed to this decline: the global economic recession during this period; the political instability in Namibia's Caprivi strip and Zimbabwe, and Botswana's presidential elections in 2002.

Table 6.4: Number of Tourists/Visitors to Botswana From 1997 to 2002

Year	Number of Tourists/Visitors	Annual Growth Rate
1997	484 960	
1998	524 586	7.6%
1999	669 208	21.6%
2000	826 193	19.0%
2001	791 120	-4.2%
2002	757 273	-4.2%

Source: Adapted From Republic of Botswana Tourism Statistics, 2001; Republic of Botswana Statistical Bulletin, 2004.

According to a report by the Republic of Botswana Department of Tourism (2001), in 2000 the Okavango Delta received 12.1 percent of the total visitors/tourists to Botswana. However, this report does not explain the methodology used to calculate or conclude that 12.1 percent of the tourists/visitors to Botswana went to the Okavango Delta. As can be seen from Table 6.4, the total number of tourists and visitors to Botswana in 2000 amounted to 826 193, of which 12.1 percent comprised 99 969 individuals. Based on this result, it can therefore be stated that 99 969 people visited the Okavango Delta in 2000.

However, the number of tourists that visit or pass through Moremi Game Reserve can also be used to provide a more accurate estimation of the number of tourists that visit the Okavango Delta each year, as all movement into or out of the reserve is recorded.

Table 6.5: The Number of Visitors to Moremi Game Reserve From 1995 to 2001

Year	Number of Tourists/Visitors
1995	36 074
1996	38 204
1997	42 987
1998	49 556
1999	46 707
2000	30 835
2001	31 076

Source: Adapted From the Department of Wildlife and National Parks, 2002; Mbaiwa, 2002.

As shown in Table 6.5, 30 835 individuals visited the Moremi Game Reserve in 2000, which is a much lower figure than the 99 969 individuals that the Department of Tourism (2001) estimated visited the whole of the Okavango Delta in 2000. As such, figures from the Moremi Game reserve do provide a reliable source of information, yet should be used with care as they can be a gross underestimate of the total number of tourists visiting the Okavango Delta each year. This is because the Okavango Delta as a whole is large, and most areas allow for the entry and exit of people into the Delta without the information ever being recorded (such as in the Panhandle area). However, if the data from the Department of Tourism (2001) and that from the Moremi Game Reserve is considered, it can be assumed that an average of around 65 000 people visit the Okavango Delta each year. Since it is difficult to accurately estimate the number of tourists that visit the delta annually, the ideal situation would be a complete sample of all people who stayed in all accommodation areas (camps, lodges, hotels, etc.) in the Okavango in a particular year (Department of Tourism, 2001; Mbaiwa, 2002).

With regards to tourist/visitor numbers from the Moremi Game Reserve (Table 6.5), the figures indicate that there was an increase in visitor/tourist numbers to Moremi Game reserve, (and it can be assumed the Delta as a whole) from 1995 to 1999. However, there was a decline in 2000 and 2001. This corresponds to the figures in Table 6.4 for Botswana as a whole, which also experienced a decline in tourist/visitor numbers after 2000. The most affected groups included the independent (low-cost) and mobile tourist as shown in Table 6.6.

Table 6.6: The Number and Type of Tourists That Visited Moremi Game Reserve From 1995 to 2001

Year	Number of Tourists/Visitors			
	Independent (Low Cost)	Mobile	High Cost	Totals
1995	8025	12 570	15 479	36 074
1996	7495	15 395	15 314	38 204
1997	11 298	17 487	14 202	42 987
1998	14 560	17 890	17 106	49 556
1999	16 367	14 835	15 505	46 707
2000	8141	8521	14 173	30 835
2001	7035	7687	16 351	31 076

Source: Adapted From the Department of Wildlife and National Parks, 2002; Mbaiwa, 2002.

A number of factors can be mentioned which may have contributed to this decline: the global economic recession during this period (as noted earlier); the political instability in Namibia's Caprivi Strip and Zimbabwe as the country moved towards parliamentary elections in the winter of 2000; presidential elections in Botswana in 2002; floods in 2000 that resulted in the Moremi Game Reserve being temporarily closed to independent (self-drive) and mobile tourists for half the year as roads were impassable; and an increase in park fees for Moremi Game Reserve during this period (Mbaiwa, 2002).

Despite this decline in visitor numbers to Moremi Game Reserve, the general picture shows an increase in the number of tourists visiting the area in other years. As a

result, it can be safely assumed that the number of tourists visiting the Okavango Delta has been increasing, particularly from the 1990s onwards, and will continue to do so as long as the Botswana Government upholds its present policy of tourism development as a means to economic empowerment (Mbaiwa, 2002).

6.3.3 Origin of Tourists

Approximately three-quarters of Moremi Game Reserve is located within the Okavango Delta and the majority of tourists to the Delta go there, or pass through it on their way to the Chobe National Park. With regards to the origin of tourists visiting the Okavango Delta, data from visitor entries into the Moremi Game Reserve indicate that the majority of tourists visiting the area come from Europe, North America, New Zealand and Australia, and South Africa (Table 6.7).

Table 6.7: Nationality of Tourists Visiting the Moremi Game Reserve (1999 – 2001)

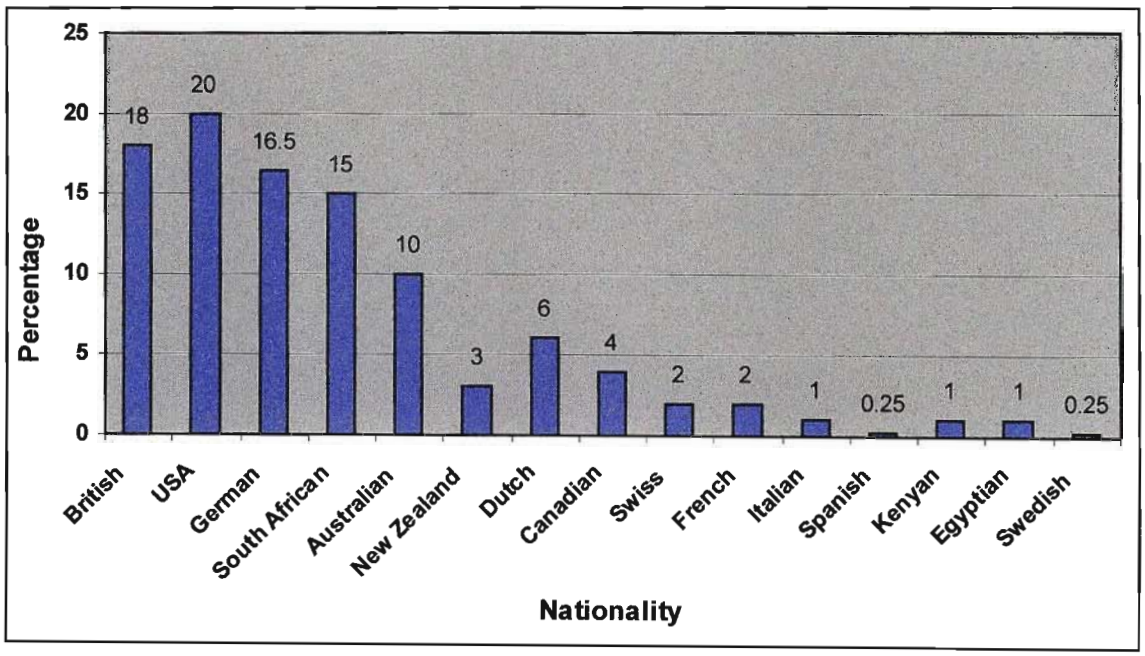
Country	1999	2000	2001	Totals
Citizens	1014	703	921	2638
Residents	6203	4679	5500	16382
South Africa	9625	5007	4993	19625
Other Africa	987	613	537	2137
North America	1057	6154	5985	13196
South America	7461	693	702	8856
United Kingdom	3762	2606	2212	8580
Other Europe	13669	8993	8764	31426
Australia and New Zealand	1761	1148	1201	4110
Asia	347	109	114	570
Other	821	130	147	1098
Total	**46707**	**30835**	**31076**	**108618**

Source: Adapted From the Department of Wildlife and National parks, 2002; Mbaiwa, 2002.

A structured questionnaire for the purpose of interviews was randomly distributed to 400 tourists throughout the Okavango Delta area and Panhandle between April 2003 and September 2004. Responses were received from 224 (56 percent) of them. As can be seen from Figure 6.3, 70 percent of the tourists interviewed were of

European and North American origin, while only 17 percent were from African countries, consisting predominantly of South Africans.

Figure 6.3: Nationality (Percentage and Number) of Interviewed Tourists in the Okavango Delta and Panhandle, 2003 - 2004



Nationality	Number of People	Percentage
British	41	18
USA	45	20
German	37	16.5
South African	34	15
Australian	22	10
New Zealand	7	3
Dutch	13	6
Canadian	9	4
Swiss	4	2
French	4	2
Italian	2	1
Spanish	1	0.25
Kenyan	2	1
Egyptian	2	1
Swedish	1	0.25
Total	**224**	**100**

The findings presented in Figure 6.3 correspond to the data from the Moremi Game Reserve in Table 6.7, where Europeans, North Americans, South Africans and Australians/New Zealanders made up the bulk of visitors to the reserve between 1999 and 2001. However, it can also be noted that a fairly substantial number (around 17 percent) of the tourists interviewed in the Delta, particularly the South Africans, were also expatriate (white) Botswana residents, working on contract in the country. Most of these 'resident tourists' together with the other South African tourists make up the bulk of the independent tourists in the Okavango region.

Many of the reasons that can be used to explain the dominance of overseas visitors to the Delta have already been noted in previous chapters. However, the return of peace to the region, especially in South Africa and Angola, improved transportation systems, especially air travel, and an improved road network, the marketing of the Okavango Delta as a tourist destination in developed countries, and the general peaceful political climate in Botswana are some of the reasons why more overseas-based tourists visit the Okavango region.

Table 6.7, however, also shows that citizens of Botswana do not visit the Moremi Game Reserve or Okavango Delta in large numbers. Only 2638 visited the area between 1999 and 2001. The high prices charged in tourism facilities in the Delta (and Botswana as a whole) were noted as one of the major reasons behind the failure of citizens to visit the Delta. Other reasons include a general lack of interest in, or awareness of, nature-based tourism and wilderness areas, and a low-level of interest in investing personal time and resources in tourism activities. Hence, Botswana as a whole currently has a very poor domestic tourism industry.

6.3.4 The Tourism Accommodation Sector

Accommodation is a key component of the tourism industry in that the nature of the accommodation available at the tourist destination will determine the type and scale of tourism that is possible (Foster, 1985). The type of accommodation supplied at a destination is generally a function of demand, in that it is the tourists who determine accommodation type. For example, some tourists demand full-amenity accommodation facilities, while others are content with the bare essentials (Bennet, 1995). Accommodation is the key primary sector within the tourism industry. The

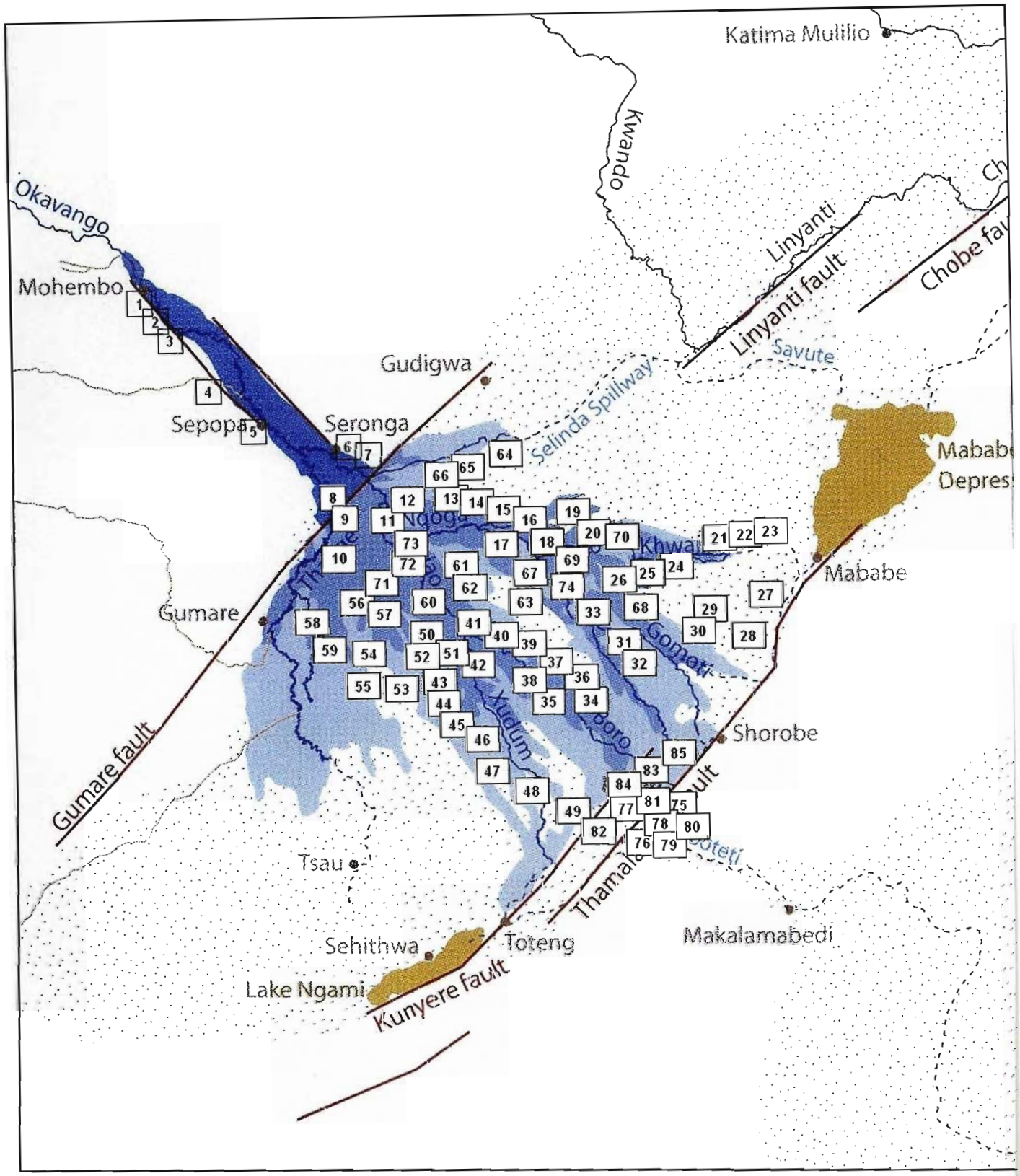
most direct economic impacts of tourism occurs within the primary sectors. Hence, an increase in the number of tourists staying in accommodation facilities in a tourist destination region would directly result in increased income generation in this sector (Steyns, 1999).

6.3.4.1 Tourist Facilities in the Okavango Delta

By virtue of being Botswana's major tourist destination, the Okavango Delta and Panhandle region contains approximately 85 permanent hotels, lodges and safari camps, with several of them situated in Maun (Table 6.8 and Figure 6.4). In fact, the increase in accommodation facilities in Maun and the Okavango Delta since the 1990s is one of the ways in which tourism growth and economic development in the region can be measured. In 1989, for example, there were 32 accommodation facilities in the Okavango Delta. This figure has since increased to 85 accommodation facilities in 2001 (Table 6.9), which represents an increase of 62.3 percent in the thirteen-year period. However, this figure is likely to be lower than the actual number of facilities in the area as many hunting and safari camps within the Delta are not permanent and therefore are not included in Table 6.8, Figure 6.4 and Table 6.9 (Mpotokwane, 1990; Main, 2001; Roodt, 2004).

A structured questionnaire for the purpose of interviews was distributed to 70 of the 85 permanent hotels, lodges and safari camps situated within Maun and the Okavango Delta and Panhandle region. Responses were received from 63 of these facilities. Therefore 74 percent of the permanent hotels, lodges and safari camps in the Okavango were sampled in this study.

Figure 6.4: Map Showing Location of Tourist Accommodation Facilities in the Okavango Delta Area



*The numbers on the map denoting the tourist accommodation facilities correspond to the numbers in Table 6.8.

Source: Adapted from Mendelsohn and el Obeid, 2004; Roodt, 2004.

Table 6.8: Lodges, Hotels and Safari Camps in the Okavango Delta and Maun

Name of Facility	Type of Facility	Name of Facility	Type of Facility
1. Drotsky's Cabins	Lodge	50. Nxabega Safari camp	Safari Camp
2. Shakawe Fishing Lodge	Lodge	51. Kanana Camp	Safari Camp
3. Xaro Lodge	Lodge	52. Pom Pom Camp	Safari Camp
4. Nxamaseri Fishing Lodge	Lodge	53. Mokolwane Camp	Safari Camp
5. Sepopa Swamp Stop	Fishing Camp	54. Abu Camp/Elephant Safaris	Safari Camp
6. Seronga House Boat	House Boat (Lodge)	55. Macatoo Camp	Safari Camp
7. Mbiroba Camp	Safari Camp	56. Kwetsani Camp	Safari Camp
8. Guma Island Lodge	Lodge	57. Jacana Camp	Safari Camp
9. Guma Lagoon Fishing Camp	Fishing Camp	58. Tubu Tree Camp	Safari Camp
10. Makwena Safari Camp	Safari Camp	59. Jao Camp	Safari Camp
11. Jedibe Island Camp	Safari Camp	60. Xigera Camp	Safari Camp
12. Duba Plains Camp	Safari Camp	61. Little Mombo Camp	Safari Camp
13. Vumbura Camp	Safari Camp	62. Mombo Camp	Safari Camp
14. Vumbura Little Camp	Safari Camp	63. Chiefs Safari Camp	Safari Camp
15. Kaparota Camp	Safari Camp	64. Motswiri Camp	Safari Camp
16. Xugana Island Lodge	Lodge	65. Modumo Lodge	Lodge
17. Camp Okavango	Safari Camp	66. Tanuga Camp	Safari Camp
18. Shindi Camp	Safari Camp	67. Ebony Camp	Safari Camp
19. Tsum Tsum Splash Camp	Safari Camp	68. Gomoti Camp	Safari Camp
20. Kwara Camp	Safari Camp	69. Masame Camp	Safari Camp
21. Tsaro Elephant Safari Lodge	Lodge	70. Mukusi Camp	Safari Camp
22. Khwai River Lodge	Lodge	71. Vundumtiki Camp	Safari Camp
23. Machaba Camp	Safari Camp	72. Xeta Fly Camp	Safari Camp
24. Camp Okuti	Safari Camp	73. Xeta Trails Fly Camp	Safari Camp
25. Xakanaxa Camp	Safari Camp	74. Kwara Camp (Bird Safaris)	Safari Camp
26. Camp Moremi	Safari Camp	75. Crocodile Camp	Lodge
27. Mankwe Camp	Safari Camp	76. Motsentsela Tree Lodge	Lodge
28. Kaziikini Camp	Safari Camp	77. Maun Lodge	Lodge
29. San-ta-wani Camp	Safari Camp	78. Riley's Hotel	Hotel
30. Starling's Camp	Safari Camp	79. Sedia Hotel	Hotel
31. Chitabe Camp	Safari Camp	80. Maun Rest Camp	Safari Camp
32. Chitabe Trails Camp	Safari Camp	81. Audi Camp	Safari Camp
33. Sandibe Camp	Safari Camp	82. Sitatunga Camp and Crocodile Farm	Safari Camp
34. Stanley's Camp	Safari Camp	83. Okavango River Lodge	Lodge
35. Ivory Camp	Safari Camp	84. Island safari Lodge	Lodge
36. Semetsi Camp	Safari Camp	85. Thamalakane Lodge	Lodge
37. Gunn's Camp	Safari Camp		
38. Oddballs Lodge	Lodge		
39. Delta Camp	Safari Camp		
40. Eagle Island Camp/Xaxaba Camp	Safari Camp		
41. Gubanare Camp	Safari Camp		
42. Kiri Camp	Safari Camp		
43. Rann's Safari Camp	Safari Camp		
44. Mantis Walking Trail	Safari Camp		
45. Eden Walking Trail	Safari Camp		
46. Baobab Walking Trail	Safari Camp		
47. Xudum Safari Camp	Safari Camp		
48. Kujwana Safari Camp	Safari Camp		
49. Qwaapu Safari Camp	Safari Camp		

Source: Adapted From Main, 2001; Roodt, 2004.

Table 6.9: Number of Accommodation Facilities in Maun and the Okavango Delta in 1989 and 2001

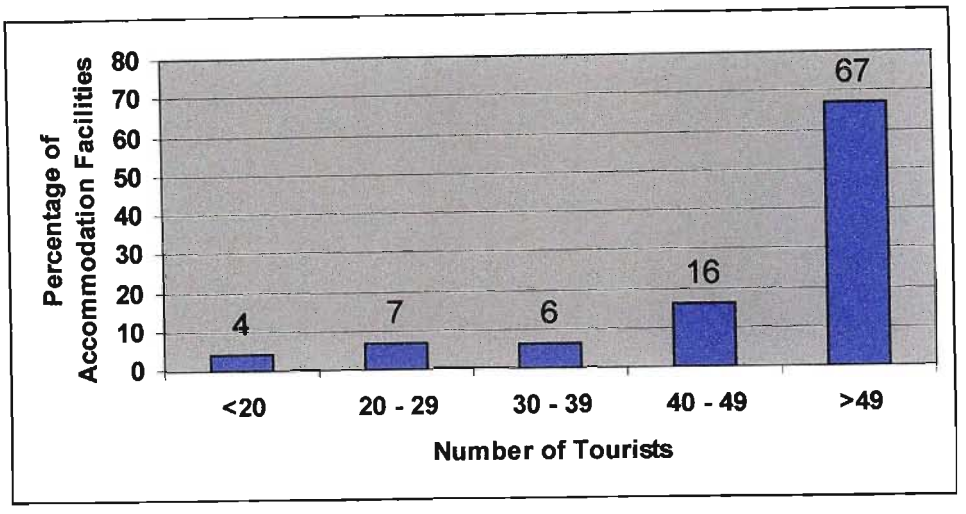
Type of Facility	1989	2001
Lodges	8	17
Camps	23	66
Hotels	1	2
Totals	**32**	**85**

Source: Adapted From Mpotokwane, 1990; Main, 2001; Roodt, 2004.

In 1989 there were approximately 15 non-permanent fishing and hunting camps located in the Okavango Delta, which have increased to an estimated 45 over the past 16 years (Mpotokwane, 1990; Main, 2001; Roodt, 2004). The increase in accommodation facilities is associated with an increase in the number of available rooms and beds in Botswana. According to the Botswana Tourism Development Program (BTDP) (1999), there were 1759 rooms and 3562 beds available in Botswana in 1996. Maun and the Okavango Delta accounted for 258 rooms, which was 14.7 percent of the total share of rooms in the country. By 1998 it was estimated that the total number of rooms in serviced accommodation had increased to 2284 rooms spread over 114 establishments, of which 482 rooms or 21.1 percent were in Maun and the Okavango region. In 2001, the 85 permanent lodges, hotels and safari camps in the Okavango were found to have a total of approximately 600 rooms or 1500 beds (BTDP, 1999; Mbaiwa, 2002).

Most tourist accommodation facilities in the Okavango Delta have, on average, more than 50 tourists staying there each month. However, according to some of the managers interviewed, during the peak tourist season (April to September) in northern Botswana, there are often up to more than 500 tourists staying at some of the larger facilities in a single month in the Delta, particularly in Maun (Figure 6.5).

Figure 6.5: Accommodation Facility Monthly Tourist Numbers, Okavango Delta, 2003 - 2004



However, Table 6.10 shows that there has been an overall decline of 2.1 percent in room occupancy since 1999. This may be attributed to an increase in the number of rooms available since 1999 due to the expansion of existing hotels, lodges and safari camps in the Delta, and the establishment of new accommodation facilities in this area.

Table 6.10: Room Occupancy Rates (%) for Tourism Accommodation Facilities in the Okavango Delta, 1999 – 2001

Year	Room Occupancy (%)
1999	56.3
2000	51.9
2001	54.2

Source: Adapted From the Republic of Botswana Statistical Bulletin, 2001.

There is no clearly defined grading system for accommodation facilities in Botswana. However, most hotels, lodges and safari camps in the Okavango Delta region maintain a high standard, largely catering for foreign tourists. Due to the high prices charged, tourists expect luxurious accommodation. The more up-market facilities in the region have luxurious rooms, restaurants, air-conditioning, swimming pools, television and entertainment facilities, while most other accommodation facilities have most of the basic amenities. Lodges and safari camps in the Okavango Delta

tend to vary in terms of standards and facilities on offer. Some safari camps are merely campsites with ablution blocks, and can be very reasonably priced, while others consist of luxury groups of chalets or cottages, or luxury tents, complete with swimming pools and restaurants. Most lodges and safari camps also hire out boats, or take tourists to other areas from where boats or mekoros can be hired, organize game and bird viewing activities, and fishing opportunities, etc. (Table 6.11). Overall, accommodation in the Okavango Delta can generally be described as being of a high quality, attracting the more wealthy overseas tourists. The Botswana Government's 'high-cost, low-impact' tourism policy is partly responsible for the dominance of up-market accommodation facilities in the Delta, as the policy was designed to prevent mass tourism through high prices, as the Okavango region is a sensitive wetland (http://www.safariweb.com...htm).

Table 6.11: Tourist Activities Offered by Interviewed Tourist Accommodation Facilities in the Okavango Delta Region (2003/2004)

Activity Offered	Total Number of Accommodation Facilities (out of 63)	Percentage
Mobile Safari Trips	36	57
Fishing	50	79
Game Drives	38	60
Birding	42	66
Scenic Flights	47	75
Boat Rides	49	78
Mekoro Trips	47	75
Elephant-Back Safaris	1	2
Horse-Back Safaris	2	3
Scenic Walks/Trails	40	63
Hunting	1	2

6.3.4.2 The Number of Days Spent by Tourists in the Okavango Delta

The number of days spent by tourists in the Okavango Delta depends largely on the particular category of tourists, such as independent (self-drive, low-cost), mobile or high-cost tourists. On average, high-cost tourists spend 6 to 10 days in the Delta, of which 2 to 3 day periods are spent in 2 to 3 different safari camps/lodges that they visit in various parts of the Delta. Mobile tourists generally spend between 7 to 14

days in the region, while independent tourists usually spend around 10 days in the Delta. Table 6.12 shows the total number of days/nights that were spent by the various tourist categories in the Moremi Game Reserve between 1997 and 2001 (DWNP, 2002; Main, 2001).

Table 6.12: The Total Number of Days/Nights Spent by Tourists in the Moremi Game Reserve, 1997 – 2001

Year	Independent Tourists	Mobile Tourists	High-Cost Tourists	Total
1997	20 832	22 039	30 951	**73 822**
1998	26 898	27 313	40 668	**94 879**
1999	27 694	26 963	33 681	**88 338**
2000	12 818	19 118	25 478	**57 414**
2001	11 002	12 907	28 926	**52 835**

Source: Adapted From Main, 2001; DWNP, 2002.

Table 6.12 shows that high-cost tourists generally spend more days in the Okavango than the other two categories of tourists. High-cost tourists also contribute more revenue than other photographic tourists in the Delta, the implications of which will be discussed in more detail later in this chapter.

6.3.4.3 Tourist or Visitor Expenditure

Visitor expenditure represents the total amount of money that tourists are expected to spend in tourist destination areas such as the Okavango Delta. Spending patterns vary with different categories of tourists. Consultations with managers of various lodges and safari camps throughout the Delta indicated that high-cost tourists (who are the main group of photographic tourists in the Delta) spend, on average, between US$ 4 000 to 6 000 each during a 6 – 10 day stay in the Okavango. Mobile tourists have a range of packages and opportunities on offer to them, and hence their expenditures vary greatly from less than US$ 200 to over US$ 5 000. Independent (self-drive; low-cost) tourists, particularly those from South Africa and expatriate Botswana residents, spend very little in the Okavango Delta. In most cases they carry their own camping equipment, food, petrol, and spare wheels. Generally, their main expenditure in the Delta is park entry fees and vehicle taxes.

Safari hunters or spot (commercial) hunters are the biggest spenders in the Okavango Delta. For example, a hunter who stays in the Delta for a month with Ranns Safari Camp to hunt an elephant would pay up to US$ 150 000 (Pula 900 000) (Mbaiwa, 2002). Table 6.13 shows the average prices charged at accommodation facilities in the Okavango Delta.

Table 6.13: Average Prices for Accommodation Facilities in the Okavango Delta and Panhandle Region (US$) (2002)

Room Type		Average Price p/p Sharing
Lodge/Hotel in Maun		US$ 80 - 100 per night (Pula 500)
Luxurious Lodge in Delta		US$ 300 - 500 per night (Pula 2000 - 3000)
Up-Market Tented Safari Camp		US$ 50 - 200 per night (Pula 300 - 1200)
Basic Campsite		US$ 8 per night (Pula 50)
Moremi Game Reserve Entrance Fee:	Average Price per Person per Day:	Botswana Citizen: Pula 10 Botswana Resident: Pula 30 Foreigner: Pula 120
	Vehicle Entry Fees:	Botswana Registered Private Vehicle: Pula 10 per day Foreign Registered Private Vehicle: Pula 50 per day

Source: Adapted from Main, 2001, p. 109.

As can be seen from Table 6.13, most accommodation facilities charge prices well beyond the means of the local population, whose average monthly incomes range from Pula 441 to Pula 731 (Republic of Botswana Statistical Bulletin, 2001).

Naturally, high-cost tourists are the most 'valuable' type of tourist to the Botswana Government due to the amount of revenue they generate. As such, the government is increasingly putting structures in place which will encourage the dominance of this type of tourist in the country. For example, according to Main (2001), all tourists have access to the Okavango Delta and Moremi Game Reserve, but it is now becoming increasingly difficult to get into these areas, except in the company of a licensed operator, due to bureaucratic controls, and the location of concession areas, etc. As a result, it is easier for high-cost tourists, who take part in package tours run by tour operators to travel throughout the Okavango Delta, than it is for the

other two types of tourists, and hence, as can be seen from Table 6.6 and Table 6.12, high-cost tourists dominate the Okavango Delta's tourist areas.

The greater majority of the accommodation managers interviewed (53 percent) stated that they were satisfied with the Botswana Government's 'high-cost, low-impact' tourism policy (Table 6.14). The main reason given was that the policy helps limit the number of tourists able to visit the Delta area at any one time, helping to promote the areas conservation, while the high cost aspect still allows large profits to be made.

Table 6.14: Views of Accommodation Managers on Government's 'High-Cost, Low-Impact' Tourism Policy (2003/2004)

Opinion of Manager	Number of Managers	Percentage
Satisfied with policy	33	53
No opinion	7	11
Dissatisfied with policy	23	36
Total	**63**	**100**

The main reason given by most of the 36 percent of the managers who stated they were dissatisfied with the government's 'high-cost, low-impact' policy, was that the policy restricted the number of people who were willing to pay the prices generally charged for tourism in the Delta area, and hence restricted the number of tourists visiting the area. This in turn reduced their profits, as they potentially would be able to make far more from tourism in the Okavango, if more tourists could afford to visit the area. With regard to the policy helping to conserve the Okavango Delta through limiting the number of tourists, many of the managers stated that an increase in tourist numbers in the Delta would not adversely affect the area. This was because they held the view that it was not the tourists, but rather the local population, who were degrading the region.

Despite the various opinions on the 'high-cost, low-impact' tourism policy, safari managers in the area generally hold the impression that most parts of the Okavango Delta are already saturated with tourism facilities, tourist activities and tourists. As a result, it is suggested that there should not be an increase in the number of facilities, nor the volume of tourists coming into the area (Mbaiwa, 2002). These views are

validated by the Tawana Land Board who note that the Panhandle and upper Delta areas of the Okavango are saturated with boating and fishing activities. They proposed a recommendation in the 2001 Okavango River Panhandle Management Report for a reduction in the number of boats and fishing activities in this area in order to promote the sustainable use of the river and its resources in the Panhandle (Mbaiwa, 2002).

Of the 224 tourists interviewed in the Okavango Delta between 2003 and 2004, the greater majority (57 percent) stated that they do not intend to spend another holiday in the Okavango Delta. The most commonly cited reason for this was that the prices charged for tourist accommodation facilities and services were too high. Sixty one percent of the tourists interviewed stated that they were taking part in package tours, while the remaining 39 percent stated that they were taking part in individually guided tours. Almost all of the tourists (93 percent) who were taking part in package tours felt that exorbitant prices were charged. Many of the individually guided tourists interviewed stated that they felt the park entry fees for Moremi Game Reserve were too high, and complained about poor facilities such as ablution blocks and littering in public campsites in the reserve. However, most of the tourists interviewed (84 percent) stated that they found the accommodation to be of a good to high standard.

6.3.4.4 The Okavango Delta's Tourist Season

Most tourists visit the Okavango Delta during Botswana's dry season (April to September/October), with the peak tourist month being August. This is illustrated by the higher room and bed occupancy rates during May to October, as shown in Table 6.15.

Several factors influenced the increase in tourist numbers in the Delta during the country's dry season or months of April to September/October. Firstly, Botswana's dry season coincides with the summer in Europe and North America (most international tourists that visit the Delta are from Europe and North America), and summer is considered the best months for touring in the northern hemisphere where there are long, summer school holidays. Secondly, the flood water levels are highest in the Delta during Botswana's dry season, with flood levels reaching their peak in April/May in the Panhandle area, and in August in the lower reaches of the Delta.

Table 6.18: Ownership of Tourist Facilities in the Okavango Delta (2003/2004)

Ownership	Number	Percentage
Foreign Owned	46	54
Jointly Foreign and Citizen Owned	23	27
Citizen Owned	16	19
Total	**85**	**100**

These findings correlate with both Silitshena and McLeod's (1998) and Mbaiwa's (2002) research regarding the ownership of the accommodation and transportation sector in the Delta and Maun. According to Mbaiwa (2002), 43 percent of the safari companies, and 63 percent of tourism businesses in Maun and the Delta are completely foreign owned. Thirty-three percent of safari companies and 23 percent of tourism businesses have joint foreign and local ownership. Only 23 percent of safari companies and 14 percent of tourism businesses are entirely locally owned. According to Silitshena and McLeod (1998), 82 of 97 (85 percent) accommodation and transportation companies in Maun and the rest of the Delta have foreign involvement, with 50 (51 percent) of these being entirely foreign owned, 33 (34 percent) being jointly foreign and locally owned, and 14 (15 percent) being entirely owned by local citizens of Botswana. It must, however, be noted that even though approximately 15 percent of tourism facilities, companies and businesses in the Delta are owned by Botswana citizens, a number of these citizens are white people who have lived in Botswana for a long time an hence taken on Botswana citizenship, giving up their original foreign citizenship. As a result, the number of tourist facilities, companies and businesses in the Delta that are actually owned by black Botswana citizens is much lower than 15 percent.

Furthermore, according to Mbaiwa (2002), data from the licensing office in the Department of Tourism (2000) indicates that out of 103 tourism-related businesses registered in Maun and the Ngamiland District, 16 (15,5 percent) were citizen owned, 36 (35 percent) were jointly owned, while 51 (49.5 percent) were foreign owned. This therefore shows that 87 (84.5 percent) of the tourism-related companies registered in Maun and operational in Ngamiland District have direct foreign involvement. Table 6.19 shows the concession areas in the Ngamiland District leased by the Tawana Land Board in 2001. Four (27 percent) were leased to citizen

companies, 6 (40 percent) to jointly owned citizen and foreign companies and 5 (33 percent) to entirely foreign companies. This means that 11 of the 15 concession areas leased by the Tawana Land Board in 2001 had/have foreign involvement and control.

Table 6.19: Concession Areas Leased by the Tawana Land Board in 2001

Ownership	No. of Concession Areas	Percentage
Citizen	4	27
Jointly	6	40
Foreign	5	33
Total	**15**	**100**

Source: Adapted From Mbaiwa, 2002.

Based on these findings, it can be concluded that the tourist industry in the Okavango Delta is predominantly foreign owned and controlled. As such, the industry has been designed, and services and infrastructure built, to meet the needs of international clientele from overseas countries.

According to Cooper *et al* (1993), this form of foreign ownership is not unique to Botswana. Most Third World tourism industries are dominated by foreign ownership and participation, especially in the accommodation sector. As Ndubano (2000) also highlights, in many developing tourism industries there is a danger in foreign involvement and ownership reaching proportions where any meaningful participation by local citizens is impossible. The domination of the tourism industry in the Okavango Delta by foreign interest has led to the loss of resource control by the local population (Ndubano, 2000). The implementation of the Community-Based Natural Resource Management (CBNRM) programme in the Delta, and Botswana as a whole, is seen as a possible means to involve the local population in the tourism industry and lessen the extent of 'enclave development' in the area. However, as will be discussed further in this chapter, the success of the CBNRM programme in empowering local citizens to effectively take part in Botswana's tourism industry is still under debate.

6.3.4.6 Enclave Tourism

As highlighted earlier, the type of tourism that has so far developed in the Okavango Delta region is characterised by facilities such as hotels, lodges and safari camps that are owned and controlled by foreigners. As shown in Table 6.18 and 6.19, 81 percent of the tourist facilities in the Delta have either foreign ownership or involvement, and 11 of the 15 (73 percent) concession areas leased out by the Tawana Land Board in 2001 have foreign involvement and control. Tourism that develops in remote areas and is predominantly owned and controlled by foreigners (e.g., expatriates) has in recent literature been referred to as 'enclave tourism' (Britton, 1991; Ceballos-Lascurain, 1996). According to Ceballos-Lascurain (1996), enclave tourism is tourism that is concentrated in remote areas in which the types of facilities and their physical location fail to take into consideration the needs and wishes of surrounding communities. The goods and services offered by the tourist industry are beyond the financial means of the local communities and any foreign currency created may have only a minimal effect on the economy of the host location. Enclave tourism has also been referred to as internal colonialism, whereby the natural resources in a host region mostly benefit expatriates or outsiders while the majority of the locals are marginalised either financially or otherwise. In enclave tourism, facilities such as hotels, lodges and safari camps are designed to meet the needs and interests of foreign tourists (Drakakis-Smith and Williams, 1983; Ceballos-Lascurain, 1996).

Even though tourism facilities are dispersed throughout the Okavango Delta region, and are somewhat diversified in type, price-range and structure, the segregation of the local population from these facilities through income disparities has led to the growth of tourist enclaves. As can be seen from Table 6.13, most accommodation facilities in the Delta charge prices well beyond the means of the local population. This is also reflected in Table 6.7, which shows that Botswana citizens do not visit the Okavango Delta's tourist areas in large numbers, and that the country as a whole generally has a very poor domestic tourism industry. In Maun, for example, most of the prime river-bank areas are dominated by concentrations of 'up-market' lodges and hotels, which are insulated from the local population housing areas by 'uninhibited green stretches'. These tourist facilities cater only to the foreign visitors, offering various eco-tourism activities such as boat trips through, or flights over, the

Lastly, wildlife tends to congregate around the floodwaters of the Delta during the dry months and are more easily seen by tourists, as compared to the wet season, when they are scattered around a much wider area and are not as easily viewed.

Table 6.15: Room and Bed Occupancy Rates (%) in the Okavango Delta for 2001

Occupancy Rates in the Wet Season			Occupancy Rates in the Dry Season		
Months	**Room Rates**	**Bed Rates**	**Months**	**Room Rates**	**Bed Rates**
November	35	30	May	36	30
December	35	31	June	57	47
January	18	12	July	50	45
February	37	24	August	64	62
March	29	28	September	49	49
April	43	34	October	44	39

Source: Adapted From the Department of Tourism, 2002, and Mbaiwa, 2002.

6.3.4.5 The Establishment and Ownership of Tourist Facilities in the Okavango Delta Region

Even though the development of tourism in the Okavango Delta is still in an 'infant stage', the establishment of new tourist facilities has been pronounced over the past 15 years. As can be seen from Table 6.16, 72 percent of the facilities have been in existence for less than 15 years. Only 13 percent have been in operation for more than 30 years.

Table 6.16: Number of Years of Operation for Tourist Facilities in the Okavango Delta and Maun (2001)

Number of Years	Number	Percentage
Less than 5 years	10	12
6 - 10 years	17	20
11 - 15 years	34	40
16 - 30 years	13	15
31 and more years	11	13
Total	**85**	**100**

Source: Adapted From Mbaiwa, 2002.

As can be seen from Table 6.17, some of the more major safari companies operating in the Okavango Delta include Ker and Downey, Desert and Delta, Gametrackers, Okavango Wilderness Safaris and Landela Botswana. The main companies that operate hunting safaris in the Delta area include Blackbeard and Hepburn, Safari South and Rann Safaris. Over the past 15 years, the safari industry in the Delta has been very dynamic. Many of the companies have changed ownership and diversified, shifting from hunting to photographic safaris or broadening their services to include both, appealing to a broader spectrum of tourists.

Until recently, the tourism sector in the Okavango Delta has been developing with very little support (such as financial) and recognition from the Botswana Government (when compared to agriculture and manufacturing which rely heavily on government subsidies). As a result, international safari companies and individual expatriate companies who could afford the expense of developing tourist infrastructure such as camps and chalets, and marketing and administration, discovered a niche in the Delta (Mbaiwa, 2002).

Table 6.17: Major Safari Companies/Operators Operating in the Okavango Delta and Panhandle Area (2003/2004)

Name of Safari Company/Operator	Location of Offices
1. Crocodile Camp Safaris	Maun
2. Desert and Delta	Maun
3. Gametrackers	Maun
4. Island Safaris	Maun
5. John Calitz Safaris	Maun
6. Kwando Safaris	Maun
7. Ker and Downey	Maun
8. Landela Botswana	Maun
8. Lodges of Botswana	Maun
9. Okavango Explorations	Maun
10. Okavango Wilderness Safaris	South Africa
11. Capricorn Safaris	Maun
12. Drifters	South Africa
13. Go Wild Safaris	Kasane
14. Kitso Safaris	Maun
15. Nata Lodge Safaris	Francistown
16. Overland Safaris	South Africa
17. Penduka Safaris	South Africa
18. Wild Lifestyles	Maun
19. Ewan Masson Safaris	Maun
20. Blackbeard and Hepburn (Hunting)	Kasane
21. Safari South (Hunting)	Maun
22. Rann Safaris (Hunting)	Maun
23. Okavango Horse safaris	South Africa
24. Elephant Back Safaris	Maun
25. Linyanti Explorations Safaris	Kasane
26. Afroventures	South Africa
27. New moon	Maun

Source: Adapted From Main, 2001; Roodt, 2004.

With regard to the ownership of tourist facilities and businesses in the Okavango Delta, interviews with the managers of tourist accommodation facilities in this area revealed that approximately 81 percent of these tourist facilities have foreign involvement. More specifically, 54 percent were completely foreign owned, 27 percent were jointly owned by foreigners and Botswana citizens, and only 19 percent were entirely owned by Botswana citizens (Table 6.18). This means that 81 percent of the tourist companies and businesses in the Delta region have a foreign influence.

Delta, fishing, wildlife and bird viewing opportunities, and swimming pools, bars and restaurants, further strengthening the segregation of the tourist industry and local population, and enforcing the growth of enclaves (Briguglio *et al*, 1996).

The dominance of the tourism industry by foreign investors and the non-local ownership of the tourism infrastructure can reduce control over resources. In fact, according to Glasson *et al* (1995), the loss of local autonomy is certainly the most negative long-term effect of tourism. Local residents may also suffer a loss of sense of place as his/her surroundings are transformed to accommodate the requirements of a foreign-dominated tourism industry. As such, interviews with local residents within and around the Okavango Delta indicate that there is a general view that the Delta has been taken over by the Botswana Government and given to foreign tour operators. The fact that the tourism industry is predominantly foreign owned and controlled indicates that there is unequal access to the use of resources and decision making between local people and those involved in the tourism industry.

According to Glasson *et al* (1995) and Cebellos-Lascurain (1996), tourism should be sensitive to the needs and aspirations of the host population, specifically in terms of participation in decision-making processes, and providing employment for local people. The exclusive nature of the tourism industry in the Delta is characterised by limited interaction and competition for the use of resources between foreign tourists and local communities, which is leading increasingly to resentment, antagonism, alienation and the development of racism among the local communities, tourists and expatriate tour operators. As expatriate entrepreneurs dominate the tourism sector, Botswana citizens perceive the industry negatively, and often regard the process of tourism development as the 'selling out' of their resources (Mbaiwa, 2001).

Britton (1991) highlights that when tour packages are offered by foreign airlines and foreign run hotels, the destination countries receive, on average, 22 to 25 percent of the inclusive tour retail price paid by the tourists. The lack of a home-based international airline with flights to Europe, North America and New Zealand/Australia in Botswana has also contributed to the repatriation of revenue outside of the country. Air Botswana, the only national airline in the country, has flights to Johannesburg, where most tourists connect with this flight to Gaborone and then up to Maun. A comparison of arrivals and receipts between Botswana and Namibia

indicates that Botswana has more arrivals than Namibia, but in terms of receipts, Namibia's performance is better. This solely because Namibia runs a home-based international airline with flights to Europe, where most tourists originate. The lack of an international airline in Botswana, coupled with a foreign dominated tourism industry, results in a large percentage of the money paid for tourism in Botswana never even entering the country. Even if local tour operators are paid for their services within the country, most of this money is used to pay for imported food, equipment and expatriate staff (Silitshena and McLeod, 1998; Mbaiwa, 1999; Harrison, 2002; Mbaiwa, 2002).

The development of enclave tourism in Botswana and the Okavango Delta can, in part, be attributed to the government's policy of 'high-cost, low-volume' tourism. This policy, which originated in the Botswana Tourism Policy of 1990, was seen as a means of raising the needed revenue for the industry to sustain itself. As a result, from 1990 there has been a shift away from encouraging casual tourist campers in favour of tourists who occupy permanent accommodation. The policy also presumed that the lower volumes of tourists are more consistent with the need to protect the environmental basis of the industry. As a result, the Tourism Policy was implemented through targeted marketing and the imposition of high fees for the use of tourism facilities. High-spending tourists have as a result been encouraged to visit the Okavango Delta, while low budget tourists are indirectly being discouraged by the high prices charged. As Ceballos-Lascurain (1996) notes, enclave tourism is characterised by high prices, which are generally beyond the means of the local population. In the Okavango Delta, an average foreign tourist is expected to pay between US $ 200 – 500 per night, while a one-hour flight in the Delta costs up to US$ 220. These charges make the Delta a very expensive tourist area for locals to visit. This is further illustrated by the fact that in 2001 only 3 percent of the total number of visitors to the Moremi Game Reserve were Botswana citizens, 18 percent were Botswana residents, while 79 percent were foreigners from outside the country (Table 6.7). As such, more wealthy North American and European tourists dominate the Okavango Delta's tourist industry (DWNP, 2002).

Botswana's high-cost, and largely up-market tourism industry tends to directly exclude local communities and individuals from participating in the tourism business, as they lack the necessary skills and financial capability to invest in the costly

industry. As such, the substantial amount of capital needed for tourism development and the high levels of management in the tourism sector also contributes to tourism in the Okavango Delta being under the control of foreign investors. Very few locals possess the necessary expertise and management skills required to provide services needed by the type of clientele that is being targeted by the high-cost tourism policy. In addition, Botswana's financial initiatives such as the recently terminated Financial Assistance Policy (FAP), meant to promote citizen participation in tourism development were poorly designed. The FAP was developed to support unskilled, labour intensive industry. However, tourism is based more on investment in capital and skilled labour. Consequently, the volume of grants was low relative to total costs of setting up or investing in a tourism venture, to such an extent that some investors never even attempted to access the FAP funds (Bank of Botswana, 1999; Mbaiwa, 2002).

Part of the solution to the problem of enclave tourism in the Okavango Delta and Botswana is through the adoption of policies that promote a citizen and locally controlled tourism industry, for example, in promoting agriculture, encouraging the further growth of the Community Based Natural Resource Management (CBNRM) programme, government provided infrastructure, extension services, and various forms of financial support. In manufacturing, the industrial development policy is designed to facilitate the growth of not only large manufacturing firms, but also small and medium scale activities (Bank of Botswana, 1999). The Bank of Botswana further notes that the government policy is to encourage citizen-owned construction companies. Similarly with tourism, government policy should promote citizen participation and provide the necessary financial support as in the case with other sectors of the economy such as agriculture, manufacturing and construction (Bank of Botswana, 1999; Mbaiwa, 2002).

The following section deals with the relevant economic issues arising from the development of tourism in the Okavango Delta region.

6.4 The Economic Impact of Tourism in the Okavango Delta Region

An assessment of tourism's contribution to the development of a country or region requires an analysis of the backward and forward linkages between tourism and other sectors, an understanding of the spatial location of tourism activities, and the identification of the beneficiaries of its economic and other impacts. As such, if tourism is to have a major influence on the economy of a country or a particular region, it should have strong linkages with the rest of the domestic economy. Some of these linkages include agriculture, manufacturing, construction, wholesale and retail trade, hotels and restaurants, transport, banking and insurance services, water and electricity, and personal services.

6.4.1 Contribution to GDP and Foreign Exchange Earnings

The primary focus of Botswana's wildlife-based tourism industry is the country's protected and wildlife management area network, which covers some 39 percent of the surface area of the country. Approximately 90 percent of wildlife-based tourism takes place in the northern Okavango-Chobe region. In 1997, a total of Pula 800 million was contributed to GDP by the tourism sector. This represents 4.5 percent of the total GDP in 1996/1997, or 7.0 percent of the non-mining GDP. By 2000, this had increased to approximately 5 percent of the country's GDP (Barnes, 1996; Mbaiwa, 2002). According to Hermans (1990), in 1983/84 the contribution of tourism to Botswana's economy was Pula 25 million, or around two percent of the GDP.

According to the Republic of Botswana National Development Plan Nine Review (2003), the total revenue generated from national parks and game reserves in Botswana for the Year 2000 amounted to Pula 21 million (Table 6.20).

Table 6.20: Total Revenue Generated From National Parks and Game Reserves in Botswana (Pula) (1998 – 2000)

Park/Reserve	1998	1999	2000
Central Kalahari	329 920	539 915	779 744
Chobe	5 262 028	4 849 685	12 882 401
Gemsbok	296 129	535 189	706 009
Khutse	315 983	289 520	677 270
Makgadikgadi	127 184	156 563	115 987
Moremi	4 301 275	4 402 121	5 698 198
Nxai Pan	229 508	510 490	249 288
Total	**10 826 027**	**11 283 483**	**21 108 897**

Source: Adapted From The Republic of Botswana National Development Plan Nine, 2003.

If a tourism industry is to have a significant impact on the economy of a country, it must have strong linkages with the rest of the country's domestic economy. Table 6.21 shows the tourism sectors linkages with other sectors in Botswana.

Table 6.21: Share of Tourism Related Output by Economic Sector (as a percentage)

Sector	Percentage
Agriculture	0.5
Mining	-
Manufacturing	2.0
Water and Electricity	0.5
Construction	0.5
Wholesale and Retail Trade	3.0
Hotels and Restaurants	71.0
Transport	8.3
Banking and Insurance Services	2.6
General Government	3.2
Social and Personnel Services	10.1

Source: Adapted From Bank of Botswana, 1999; Mbaiwa, 2002.

As can be seen from Table 6.21, the hotel and restaurant sector has the strongest linkages with the tourism industry, yielding 71.0 percent output. Linkages are

weakest with agriculture, construction, water and electricity (Bank of Botswana, 1999; Mbaiwa, 2002).

According to the Botswana Tourism Development Programme (BTDP, 1999), the hotel and restaurant sub-sector generated 43 percent of the total tourism GDP in 1999, with the remaining 57 percent coming from other economic sectors such as wholesale trade, transport, banks, insurance and business services.

The majority of tourists visiting the Okavango Delta come from Europe and North America (Table 6.7; Figure 6.3). This has great implications for the generation of foreign exchange for the region as well as impact on the balance of payments. The economic role of international tourism in the region can be examined through both the tourist trade balance and the share of tourism receipts in total exports. The share of tourism receipt in total exports is inversely related to the size of a region, especially in GNP terms (Table 6.22) (Briguglio *et al*, 1996).

Table 6.22: Total National Receipts From Tourism (Botswana, 2001)

Year	US $ Million
1995	162
1996	184
1997	184

Source: Adapted From Africa Contemporary Record, 2001.

With regard to the indirect economic impact or the multiplier effect of international tourism, the larger the region, the higher the tourism multiplier. This is due to the magnitude of the multiplier depending largely on the degree of tourist goods and services supplied domestically, and how closely various sectors of the economy are linked. In a large country or region, a more diversified resource base and a complete industry system will enable it to enjoy both a high level of inter-industry linkages and a low level of leakage, as most of the international tourists demand can be met by domestic products. In a small state or region, such as the Okavango Delta, the small scale and limited variety of industries limit the range and volume of linkages and enforce the need for imports (Table 6.23) (Briguglio *et al*, 1996).

Table 6.23: Total Annual National Imports (Botswana, 2001)

Imports ($ million)	1996	1997	1998
Food, Beverages, Tobacco	292	297	306
Fuels	110	127	125
Chemicals and Rubber Products	176	205	211
Wood and Paper Products	126	140	144
Textiles and Footwear	129	146	150
Metals and Metal Products	152	241	249
Machinery	278	398	410
Vehicles	243	452	465
Total	**1727**	**2260**	**2326**

Source: Adapted From African Contemporary Record (2001).

According to the BTDP (1999), credits on the travel account amounted to an estimated Pula 495 million in 1997. This represents 4.5 percent of the exports of goods and services in that Year. This shows that tourism was the third largest export sector in 1997, after diamonds (P 7654 million) and vehicles (P 748 million), and ahead of copper-nickel (p 343 million) and beef (p 343 million). Leakages of foreign exchange due to imported goods and services, which is estimated to have been Pula 175 million in 1997, represents 35 percent of the credits and travel in that year. However, tourism has since become the second largest revenue earner in Botswana after diamonds (Mbaiwa, 2002).

As can be seen from Table 6.9, the Okavango Delta contains a total of 66 permanent safari camps, which tend to be located in the more rural isolated areas, not in the 'urban zones' such as Maun and Shakawe. The development of tourism facilities has therefore occurred in even the most remote areas of the Delta. However, this has not initiated regional economic development as most of the safari camps have foreign-owned headquarters in Maun or Gaborone to which most of the tourism-generated income accrues. There has been an unequal distribution of the economic impact of tourism development in the Delta. The majority of the earnings accrue to multinational hotels, and hunting and safari camps, which dominate the Delta's tourism industry.

As noted earlier, the greater majority of the tourists interviewed (57 percent) stated that they did not intend to spend another holiday in the Okavango Delta due to the high prices charged for tourist accommodation facilities and services. These findings have implications for the continued growth of the Okavango Delta tourism industry. Firstly, due to the increasing perception by both overseas and African tourists that accommodation in the Okavango Delta is not affordable, a growing number of tourists are holidaying in other, more affordable African countries, such as Kenya and Tanzania. As a result, the Okavango Delta is losing most of its potential 'return tourists' to other Third World tourism destinations due to its 'high-cost, low-volume' policies. As was noted earlier, there is increasing recognition that this policy is damaging the country's tourism industry by putting off both potential and return tourists.

A decline in the number of tourists visiting the Okavango Delta will be extremely damaging to the region's industry in that according to the law of supply and demand, in times of scarcity, prices will rise, and this applies to the accommodation sector, just as anywhere else. Also, during peak tourist months, when there is an influx of visitors and rooms are hard to come by, accommodation prices will rise. In the Okavango Delta the price inflation during the peak August to October tourist season tends to increase from between 50 to 200 percent, which increasingly brings into question the degree to which supply and demand dictate prices, as opposed to the deliberate squeezing of the tourist market though irresponsible opportunism. With the current 'high-cost, low-volume' policy, the Okavango Delta is in increasing danger of losing its growing international status as one of the best holiday destinations in Africa. Given the extent to which the region depends on tourism as its economic mainstay, a drastic decline in tourist numbers would greatly damage the region's economy.

Tourist accommodation facilities in the Okavango Delta tend to be independently owned, with no significant franchises operating in the area. In order to increase tourist numbers and make the Delta's tourism industry more accessible to the local population, there is an urgent need for the establishment of cheaper, more widely accessible accommodation facilities, which will appeal to a greater sector of society, not just upper class foreign tourists, as is the present scenario. However, this must not be done at the expense of the environment.

6.4.2 Tourism's Contribution to Government Revenue

The revenues derived from the tourism industry which accrue to the government in Botswana can be divided into three primary categories:

- import duties,
- taxes (including income and sales tax), and
- licenses and fees.

According to the Botswana Tourism Development Plan (1999), approximately Pula 81 million was contributed to central government revenue by the tourism sector in 1997/1998. Tourism-related duties are estimated to have contributed Pula 30 million, followed by licenses and fees (Pula 11.2 million), sales and tax on lodges and hotels (Pula 8.8 million) and lease rentals and resource royalties (Pula 5.2 million). The expected yields from income tax and retail sales tax are estimated at Pula 17 million and Pula 9 million, respectively (Table 6.24) (Mbaiwa, 2002).

Table 6.24: Estimates of Tourism's Contribution to Government Revenue in 1997/1998

Revenue		Pula (million)
Import duties		30.0
Income tax		17.0
Sales tax:		
	hotels and lodges	8.8
	retail sales	9.0
Licenses and fees		11.2
District councils and Land boards		5.2
Total		**81.2**
Total (excluding income tax)		**64.2**

Source: Adapted From Botswana Tourism Development Plan, 1999; Mbaiwa, 2002.

Licenses and fees collected by government departments, including the Departments of Wildlife and National Parks, Tourism, and Civil Aviation, from tourism related activities in 1996/97 to 1998/99 is presented in Table 6.25. The revenue increased from Pula 11.2 million in 1996/97 to Pula 20.3 million in 1998/99 (Mbaiwa, 2002).

Table 6.25: Estimated Tourism-Related Revenues from Licenses and Fees (1996/97 – 1998/99) (Pula)

Source	1996/97 (Actual)	1997/98 (Revised)	1998/99 (Revised)
Department of Wildlife and National Parks			
Public Campsite Fees	8 241 498	10 000 000	11 017 000
Game Licenses	969 340	1 000 000	970 000
Export Tax (Game Trophies)	37 585	37 000	37 000
Sale of Ivory, Trophies and Forfeited Animals	110 568	60 000	70 000
Sub-Total	**9 358 991**	**11 097 000**	**12 094 000**
Department of Tourism			
Sale of Publications	430 260	1800	50 000
Casino Control Board	4 987 754	6 500 000	6 500 000
Tourism Enterprises Licenses	0	60 500	150 000
Sub-Total	**5 418 014**	**6 562 300**	**6 700 000**
Department of Civil Aviation			
Airport Tax	1 032 611	2 200 000	2 200 000
Landing Fees	1 771 646	2 200 000	2 200 000
Aircraft Parking Fees	1 077 945	200 000	200 000
Sub-Total	**3 882 202**	**4 600 000**	**4 600 000**
(of which tourism related)	**1 281 127**	**1 518 000**	**1 518 000**
Total Licenses and Fees	**11 181 132**	**19 177 300**	**20 312 000**

Source: Adapted From the Department of Tourism, 2000; Mbaiwa, 2002.

Tourism in the Okavango Delta, especially in Moremi Game Reserve, significantly contributes to government revenue. As the reserve is located entirely on government or state land, most of the revenues generated from Moremi accrue to the Botswana Government. With regards to the rest of the Okavango Delta, most of the tourism facilities are located on communal land controlled by the Tawana Land Board. These facilities pay lease fees, taxes and royalties, etc. to the Tawana Land Board, which is a government department. However, most of the facilities are privately owned, by foreigners, and hence, above the lease fees and taxes, the Botswana Government does not receive much in the way of tourism generated revenue. As such, the Moremi Game Reserve is one of the most important sources of government revenue from tourism in the Okavango Delta. The total revenue collected from Moremi Game Reserve can be categorised according to the actual fees paid by visitors through the Department of Wildlife and National Parks, such as fees for entry, camping, vehicles,

etc. Table 6.26 shows the various types of park fees that were paid by tourists and tour operators at the Moremi Game Reserve, which accrued to the government, from 1998 to 2001 (Mbaiwa, 2002).

Table 6.26: Types of Fees Paid by Tourists at Moremi Game Reserve From 1998 to 2001 (Pula)

Year	Entry Fees	Camping	Vehicles	Boat	Aircraft	Other	Deposits for Bookings	Total
1998	3 195 160	466 617	222 485	2385	4564	2157	475 796	**4 373 452**
1999	3 006 140	423 238	231 798	3760	7776	4241	508 095	**4 175 012**
2000								
2001	5 171 289	407 207	490 124	3810	11 750	1000	113 052	**6 198 232**

Source: Adapted From Department of Wildlife and National Parks, 2000; Mbaiwa, 2002. (Data for 2000 is not available).

Maun Airport, the principal airport used by tourists who visit the Okavango Delta has also become a major source of government revenue in Ngamiland District. Table 6.27 shows that in 2000, the Department of Civil Aviation collected Pula 567 871 from the various fees charged to passengers, aircrafts and tour operators for using airport facilities (Department of Civil Aviation, 2001).

Table 6.27: Revenue Collected at Maun Airport in 2000

Type of Fee	Revenue Collected (in Pula)
Landing fees	170 107
Parking fees	6353
Temporary Air Service Permit	44 380
Passenger service fee	68 743
En route charges	205 311
Other	71 977
Total	**567 871**

Source: Adapted From Department of Civil Aviation, 2001.

It is evident that the contribution of tourism to government revenue has been increasing with the growth of tourism in the country. The increase has been a result of the establishment and improvements made to several tourism sectors over the last decade. Of particular relevance to the Okavango Delta is the increase in

revenue collection from the various fees charged at Maun Airport and the Moremi Game Reserve.

6.4.3 Creation of Employment

One of the most important economic impacts of tourism in the Okavango Delta is its potential to create employment for the local population. The extent to which employment is created is, however, influenced by the degree of linkages between tourism and other sectors of the economy. There are a total of 85 permanent hotels, lodges and safari camps in the Okavango Delta, and up to an estimated 45 non-permanent safari camps in the area. According to the questionnaires completed by the managers of hotels, lodges and safari camps in the Okavango Delta, these facilities generally hire, on average, anything between five and sixty black Motswana staff members, including waitrons, grounds people, cleaners, tour guides, boat operators, drivers, cooks, kitchen staff, etc. (Table 6.28).

Table 6.28: Approximate Employment Figures for Interviewed Hotels, Lodges and Safari Camps in the Okavango Delta (2003/2004)

Employee Type	Permanent Emplyees	Seasonal Employees	Total
Waitron	400	90	490
Grounds Person/Gardener	480	40	520
Cleaner	500	50	550
Tour Guide/Boat Operator/Driver	200	150	350
Kitchenstaff/Cook	400	100	500
Total	**1980**	**430**	**2410**

A similar survey was conducted by Scout Wilson Consultants in April 2001, on the employment figures of the various safari camps and lodges in the Okavango Delta. Their findings indicated that a total of 735 people were employed in 20 safari camps and lodges in the Delta. This means that, according to their figures, a total of approximately 3000 people would be employed in the 85 permanent hotels, lodges and safari camps in the Okavango area, which is around 34 percent of the formal employment in the tourism sector in Botswana.

The tourism sector in the Okavango Delta is generally considered to be dominated by expatriates, particularly with regards to management positions. According to Mbaiwa (2002), a survey of 30 hotels, lodges and safari camps in the Okavango Delta in 2001 revealed that a total of 923 people were formally employed by these facilities. When assessing the citizenship of these workers, without necessarily categorizing them according to their positions, Mbaiwa (2002) revealed that 866 (94 percent) of the 923 workers were Botswana citizens, while only 57 (6 percent) were expatriates. The majority (37 or 65 percent) of the 57 expatriates came from South Africa or Zimbabwe.

However, even though there were far more citizen workers employed in the tourism industry in the Okavango Delta, expatriates tend to hold more meaningful jobs than the local employees. For example, most tourism facility management positions are held by expatriates, as well as kitchen management and professional guiding positions. Most citizen employees hold many of the more basic, and lower paying, jobs such as cleaners, waitrons and kitchen staff, etc.

It is difficult to determine the total employment in the tourism sector in Botswana, as different researchers and reports give conflicting figures. For example, the Botswana Tourism Development Programme (BTDP) (1999) states that in 1997 the total number of jobs generated by the wildlife and tourism sector was 9900, which was approximately 4.5 percent of the total employment in Botswana, a figure also quoted by Hotel and Tourism Association of Botswana (HATAB) (2001). The Bank of Botswana (1999) stated that this was an underestimate and placed the figure at 10 015 people. HATAB also noted that tourism employment in Botswana had increased from 2630 in 1988 to 9990 in 1998, which represents a 26.6 percent increase over the ten-year period. The Department of Tourism (DOT) (2000) noted that direct employment in core tourism-related activities amounted to 8536 persons in 1998 or 3.8 percent of the total number of paid employees in Botswana. However, the DOT also stated that 8536 was a conservative estimate as staff employed by tourist shops, foreign exchange bureaus and other tourist-related services provided through, or embedded in, other sectors (e.g., retailing, banking, personal services, etc.) were not considered.

Despite these conflicting employment statistics, findings indicate that employment in the tourism sector in the Okavango region has increased over the last two decades by an estimated 70 percent (Mbaiwa, 2002).

There is little doubt that the tourism sector contributes significantly to the livelihoods of many people in the Okavango Delta area. For example, at the Botswana Confederation of Commerce, Industry and Manpower (BOCCIM) regional conference held in Francistown in 1997, it was stated that approximately 27 000 people were supported by workers employed in the wildlife and tourism sector in Ngamiland District. The majority of tourism related jobs were provided in the accommodation sector, followed by social and personnel services, wholesale and retail trade, and transport. With a high rate of population growth, a small agricultural sector and limited opportunities for the development of manufacturing, tourism can be a vehicle for creating jobs. This is particularly so in rural and wildlife areas where most tourists visit and where there are few other opportunities (Mbaiwa, 2002).

6.4.3.1 Educational Background and Training of Tourism Employees

According to a study by Mbaiwa (2002), on the economic impact of tourism in Ngamiland District in 2001, it is the Botswana Government's policy that management positions occupied by expatriate staff should have local staff members understudying them, in order to ultimately achieve the localization of such senior posts. This approach to local empowerment, however, does not appear to be feasible (at least in the near future) in the tourism sector. As shown in Table 6.29, a total of 98 tourism workers were surveyed by Mbaiwa in 2001, with regard to their education. Findings revealed that the majority of the local workers in the tourism industry have only limited education. There was little or no professional training provided to those already working in the industry to enable them to quickly occupy management positions. There appeared to be no incentive on the part of employers to train local personnel for the available professional and skilled jobs in the tourism sector (Mbaiwa, 2002).

Table 6.29: Educational Background of Workers in the Tourism Industry in the Okavango Delta, 2001

Educational Background	Number of Tourism Workers	Percentage
Never been to school	4	4.1
Primary level education	14	14.3
Junior certificate	37	37.7
O Level (Form IV)	22	22.4
Tertiary certificate	18	18.4
Diploma	3	3.1
Degree	0	0
Total	**98**	**100**

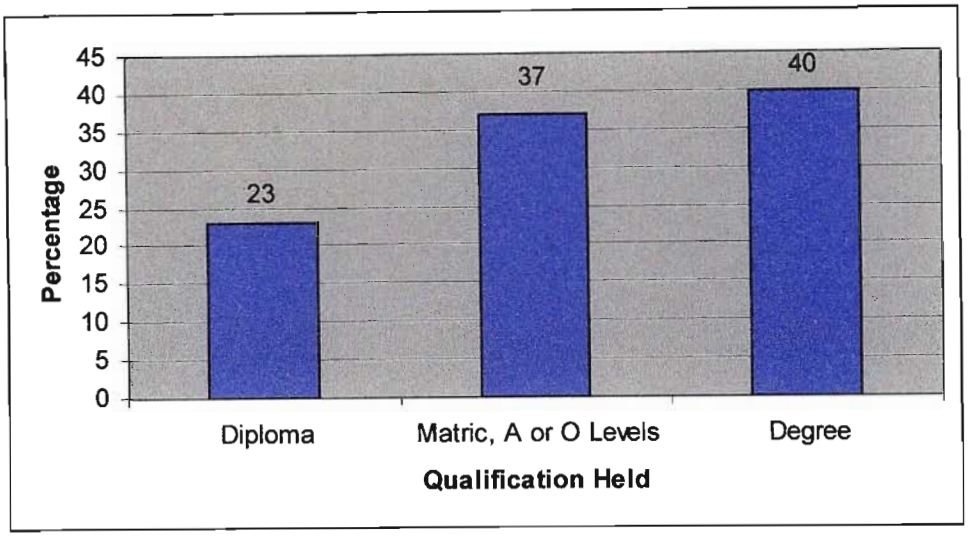
Source: Adapted From Mbaiwa, 2002.

As can be seen from Table 6.29, 56.1 percent of the 98 tourism employees interviewed by Mbaiwa in 2001 did not finish school, while only 21.5 percent have any form of tertiary level education or training. The majority of tourism workers in the Delta were also generally not sent for any from of formal training by their respective employers, in the form of short certificate courses (such as catering, travel and hospitality, accounting, professional guiding, administration and any other specialized skills). Of the 98 tourism workers interviewed by Mbaiwa in 2001, the majority (76 or 77.6 percent) stated that they were never sent for training by their respective employers (Mbaiwa, 2002).

However, despite the poor formal educational background of the majority of the workers in the tourism sector in the Okavango, the on-the-job training that is provided to workers by the respective tourism businesses, operators, facilities, etc., has generally proven to be adequate in equipping them with the necessary skills needed to perform their particular duties.

With regards to the academic qualifications of those in management positions in the hotels, lodges and safari camps in the Okavango Delta, findings by Mbaiwa, from 30 tourist accommodation facilities, indicate that 12 (40 percent) of the managers hold a Bachelor's Degree, 7 (23 percent) hold a diploma, while the remaining 11 (37 percent) have a matric, O or A levels (Figure 6.6) (Mbaiwa, 2002).

Figure 6.6: Academic Qualifications of Tourist Facility Managers in the Okavango Delta (2001)



Source: Adapted From Mbaiwa, 2002.

While it is true that many of the locals do not presently possess the necessary skills and experience in the tourism industry to fill management positions, the current qualifications of managers in accommodation facilities indicate that they are increasingly becoming as qualified as expatriate managers. If incentives were to be put in place for locals, similar to those for expatriate staff (e.g., tax gratuities and attractive salaries), the industry would be likely to attract more capable citizens interested in filling tourism management positions (Mbaiwa, 2002).

6.4.3.2 Salary Structures of Tourist Facility Workers

The majority of citizens employed in the tourism industry in the Okavango Delta occupy junior positions which attract lower salaries (Table 6.30). As local staff members occupy lower positions, they are paid lower salaries than the expatriate employees who generally occupy the management positions. As a result, there are marked differences in salaries structures between expatriate workers and local workers in the tourism industry, not only in the Okavango Delta, but in Botswana as a whole (Mbaiwa, 2002). Table 6.31 shows the average monthly salary of employees in the Okavango Delta according to type of work performed or position held.

According to the study carried out by Mbaiwa in 2001 regarding the economic impact of tourism in Ngamiland District, of the 98 tourism workers he interviewed, approximately three-quarters were paid salaries ranging from Pula 300 to Pula 900 per month. Senior workers were paid salaries that range from Pula 1200 to Pula 2400 for local staff, and Pula 4500 to Pula 8000 for expatriate staff. Managing Directors are paid between Pula 15 000 to Pula 18 000 per month (Table 6.31) (Mbaiwa, 2002).

Table 6.30: Monthly Salaries for Tourism Employees in the Okavango Delta in 2001 (Pula)

Salary of Employees	Number of Workers	Percentage
Less than Pula 300	13	13.3
Pula 301 - Pula 400	18	18.4
Pula 401 - Pula 500	14	14.2
Pula 501 - Pula 600	10	10.2
Pula 601 - Pula 700	6	6.1
Pula 701 - Pula 800	5	5.1
Pula 801 - Pula 1000	8	8.2
Pula 1001 - Pula 2000	12	12.2
Pula 2001+	12	12.2
Total	**98**	**100**

Source: Adapted From Mbaiwa, 2002.

Table 6.31: Average Salaries of Tourism Employees in the Okavango Delta According to Type of Work or Position (2001) (Pula)

Type of Employee	Average Monthly Salary
Waiters	Pula 550 - Pula 600
Cooks	Pula 700 - Pula 900
Bar Attendants	Pula 500
Cleaners	Pula 500
Motor Boat Drivers	Pula 1200
Mechanics	Pula 2100 - Pula 2250
Maintenance Assistants	Pula 850
Trackers/Mekoro Polers	Pula 650
Proferssional Guides	Pula 2200 for locals; Pula 2400 for expatriates
Assistant Managers	Pula 1200 for locals; Pula 4000 for expatriates
Managers	Pula 8000+
Managing Directors	Pula 18 000+

Source: Adapted From Mbaiwa, 2002.

These findings are consistent with those of Ndubano (2000) who found that in a sample of 50 citizens employed in the tourism sector in Maun, 33 of them earned between Pula 300 and Pula 990. Almost two-thirds (62 percent) of the citizens employed in tourism-related jobs in Maun earn much less than Pula 954.78, the country's poverty datum level in 2000 (Mbaiwa, 2002).

These findings are also consistent with those of the Botswana Tourism Development Programme (BTDP) consultants whose main focus was that of salaries in the tourism industry at a national level. The BTDP notes that even though the percentage of foreigners employed in the tourism industry is small (approximately four percent in the hotel and lodge sectors), they dominate the better paying jobs (BTDP, 1999). According to the BTDP, median salaries range from about Pula 500 per month for the lowest paid categories to around Pula 5000 per month for the highest paid. Table 6.32 shows the basic salaries of management position and 'upper level' citizen and expatriate employees in the hotel, catering and tourism sector in 1999. As can be seen from Table 6.32, expatriate salaries were/are considerably higher than those paid to citizens in similar or comparable positions, particularly for executive managers, general managers, food and beverage managers, accommodation facility managers and professional guides. The information in Table 6.32 also shows that the number of expatriate employees in

management positions in the tourism sector in Botswana was higher than that of citizens (BTDP, 1999; Mbaiwa, 2002).

Table 6.32: Average Monthly Salaries (Citizens and Expatriates) of 'Upper Level' and 'Management Position' Employees in the Hotel, Catering and Tourism Sector (1999) (Pula)

	Citizens		Expatriates	
Job Title	**Number of Employees**	**Average Monthly Salary**	**Number of Employees**	**Average Monthly Salary**
Managing Director	9	Pula 2500	13	Pula 4500
General Manager	7	Pula 3250	7	Pula 5000
Safari Camp/Lodge Manager	5	Pula 3100	12	Pula 3150
Hotel Manager	0	Pula 0	8	Pula 3767
Food and Beverages Manager	8	Pula 2650	11	Pula 3650
Executive Chef	0	Pula 0	7	Pula 3500
Professional Guide	95	Pula 895	9	Pula 2750

Source: Adapted From Botswana Tourism Development Programme, 1999; Mbaiwa, 2002.

The Botswana Tourism Development Programme further notes that the gap between citizen and expatriate levels of remuneration becomes still wider when benefits and allowances are taken into consideration. Most expatriate employees qualify for generous tax free gratuities, home leave passages, children's education allowances, furnished housing allowances, and the encashment of leave. According to Cooper *et al*, (1998), this situation is not unique to the tourism industry, or any other industry in Botswana. It has been argued that with any form of new economic development in a Third World country, the income-earning opportunities present during the early developmental stages of an industry are unlikely to be evenly distributed, in terms of both employment opportunities created as well as benefits reaped (Mbaiwa, 2002).

In her study in 2000, Ndubano found only six local managers (14.3 percent) out of 42 established management posts in the accommodation facility and tourism business sector in Maun. The remaining 36 posts (85.7 percent) were occupied by expatriates. The salary structure in the tourism sector in the Okavango Delta appears to be consistent with that of other developing countries in the world. For example, Patin (1998) states that in St Lucia, nine out of ten managers in the hotel

and restaurant sectors were expatriates and their average salaries were several times higher than the earnings of unskilled local labourers (Mbaiwa, 2002).

6.4.4 Tourism's Contribution to Infrastructural Development and the Provision of Social Services in the Okavango Delta Region

The development of tourism in the Okavango Delta has led to unprecedented economic growth over the past ten years or so in this region. Following diamond exports, tourism is now the second biggest earner for Botswana, contributing around five percent to the country's Gross Domestic Product (GDP) in 2000. Including air travel, each foreign tourist spends an average of about US$ 1000 per day during a visit to the Delta. Tourism has therefore led to the generation of foreign exchange, the development of infrastructure, particularly in Maun, the district headquarters and administrative centre, and the conservation of the Okavango Delta and its resources. The expansion of tourism in the Delta has led to the establishment of various tourism related businesses in Maun, such as wholesale and retail trades, construction and other related services, as well as improved transport and communications infrastructure. Tourism to the Delta has also helped put Botswana on the 'world map', giving it a reputation that few countries in Africa match (Mendelsohn and el Obeid, 2004; Republic of Botswana Statistical Bulletin, 2004).

Tourism in the Okavango Delta has also stimulated infrastructural development in northern Botswana. Major road networks have been tarred, making access to northern Botswana and its neighbouring states of Zimbabwe, Namibia and Zambia easier and quicker. Goods and services are now able to reach the Okavango region much more easily. In comparing Maun with other major towns with roughly the same human population and administrative status (e.g., district headquarters) in the country, Maun has developed exceedingly fast over the past 10 to 15 years, comparable perhaps only to the development rate seen in Gaborone over the past decade.

As discussed in the methodology of this study (chapter four), a total of 50 local inhabitants, from five different villages and towns located throughout the Okavango Delta, were randomly chosen and interviewed with the aid of an interpreter between April 2003 and September 2004.

Seventy four percent of the 50 local inhabitants stated that they thought the provision of social services and infrastructure in Maun and Ngamiland District over the last decade was directly influenced by the growth of tourism in the Okavango Delta region. Only 13 (26 percent) of the 50 respondents felt that that the current infrastructural development and the provision of social services in Ngamiland District was not a direct result of the development of the tourism industry in the area. Instead, they viewed the development as a result of other factors such as efforts by the government to promote rural development.

According to Mbaiwa (2002), 68.6 percent of the business managers in Maun link the success of their businesses to the growth of tourism in the Okavango Delta. They stated that the improvement of infrastructure and the provision of social services in Maun and the Ngamiland District are directly linked to tourism. They perceived Maun as a tourist centre in which most of the tourist offices are located, and that the supply of goods for tourist camps and lodges in the Okavango Delta comes from Maun. Maun is also the departure centre for most tourists visiting the Okavango Delta, and its population has more than doubled over the past 15 years. As a result, social services and infrastructure have developed to meet the needs of both the tourism industry as well as the local population living in Maun (Mbaiwa, 2002).

6.4.4.1 Transport and Communication Systems

Up until the late 1980s, much of northern Botswana was virtually inaccessible to most people due to the lack of a reliable road network, as there were no tarred toads and many of the dirt tracks in the area became impassable during the wet season. This situation began to change, however, during the Botswana National Development Plan 6 of 1986 to 1991, when the Botswana Government started focusing on tourism's potential contribution to the country's diamond-based economy. Today, northern Botswana has over 1622 kilometres of tarred road, which provide a link between Maun and most of the larger towns and villages throughout the Okavango Delta, all the major centres in Botswana, as well as the neighbouring countries of Zambia, Zimbabwe and Namibia's Caprivi Strip.

The development of the road network in northern Botswana has greatly improved the accessibility of the region, and hence increased the efficiency in the delivery of social services and other infrastructure.

The development of the road network in northern Botswana is also part of the government objective to improve the overall road system in the country. Botswana experienced a major expansion in the road network between 1990 and 2002, and during the National Development Plan 8 of 1997/98 to 2002/2003, the development of roads accounted for 58 percent of the investment allocation of the Ministry of Works, Transport and Communications (Republic of Botswana NDP 9, 2003).

6.4.4.2 Airports and Airstrips

In addition to the development of the tarred road network in Ngamiland District, in 1993 Maun Airport was upgraded, with a new terminal and extended runway. The improvement of Maun airport resulted in the development of international flights, connecting Maun with Johannesburg, Windhoek and Victoria Falls, which are the main air routes used by tourists who visit the Okavango Delta. As a result, in terms of aircraft movement each day, Maun Airport has now become the second busiest airport in Africa, after the combined Johannesburg area airports of Johannesburg International, Lanseria, Rand and Grand Central. In 2000, Maun Airport had an average of 256 aircraft landing and taking off each day during the peak tourist season of April to September/October, and 157 aircraft movements per day during the non-tourist season of November to March. However, most of this aircraft movement is by small engine aircraft that fly into the Delta either to transport tourists or to carry supplies to tourist facilities and villages and towns. There are a total of 14 privately owned air charter companies, with over a hundred small engine aircraft operating in the Okavango Delta and using Maun Airport as the main base (Table 6.33). There are also approximately 25 privately owned airfields and seven government airstrips in the Okavango Delta, excluding those used by the Botswana Defence Force (Main, 2001; Roodt, 2004).

Table 6.33: List of Private Air Charter Companies Operating in the Okavango Delta (2003)

Name of Air Company
Aer-Kavango
Air Xaxaba Gametrackers
Bushfree Air
Delta Air
Elgon Air
Mack Air
Moremi Air Charter
Ngami Air
Northern Air
Sefofane Air Charter
Swamp Air
Xugana Air
Safari Air
Wildlife Helicopters

Source: Main, 2001; Roodt, 2004.

In addition to the current airport facilities in Maun and the rest of the Okavango Delta, there is a proposed plan by the government for the further expansion of Maun airport, including terminal facilities and the runway, in order to enable the airport to receive larger aircraft. Such an expansion would undoubtedly result in an increase in tourist numbers, as well as the number of small bush aircraft flying into the Delta. While this can be regarded as a positive economic development, consideration must be given to the environmental impacts such an increase in the number of aircraft and tourists in the Delta would bring. Studies on levels of acceptable change and carrying capacities in both Maun and the Okavango Delta must be carried out before any such developments are implemented (Mbaiwa, 2002).

6.5 Summary and Conclusion

This chapter provided an in-depth analysis of the Okavango Delta's tourism industry. It focused on the type and origin of tourists visiting the area, and presented an overview of the tourism accommodation sector. It also focused on the growth of tourism enclaves in the region, and provided an appraisal of the economic impacts of the international tourism industry in the Okavango Delta.

Findings indicate that tourism has stimulated the development of a variety of allied infrastructure and facilities, such as hotels, lodges and camps, airports and airstrips, within and around the Delta. Through its backward linkages, wholesale and retail businesses have also been established, particularly in Maun, to offer various goods to the tourist industry. Tarred roads and other communication facilities in and to Ngamiland District have also been developed, making the Delta more accessible to more people than ever before. The populations of the larger towns in the Delta region have more than doubled over the past three decades with urban drift becoming an unstoppable flood. As tourism brings about increasing infrastructure and economic development and modernisation, it is becoming more and more difficult for local inhabitants to maintain independent, traditional subsistence livelihoods based on natural resource utilisation, without integration into the formal monetary-based economic institutions. This process of integration is leading to drastic, often negative socio-economic changes as increasing numbers of rural, communal agricultural people are forced to participate in modern, capitalist social-structures, while the negative environmental impacts of this tourism-based development and increase in numbers of people in the Delta, on such a fragile wetland, are becoming more and more visible.

The next chapter focuses on the utilisation and management of natural resources in the Okavango Delta, with particular reference to tourism's impact upon such resources, and provides an overview of the Community Based Natural Resource Management (CBNRM) programme.

CHAPTER SEVEN

Natural Resource Utilisation and Management in the Okavango Delta Region

7.1 Introduction

Due to the role that tourism and wildlife are expected to play as alternative engines of growth to the mining and beef industries, wildlife utilisation as a commercial and economically viable land use option is bound to gain increased importance in Botswana. However, wildlife species numbers have already declined significantly, and face increasing competition for rangeland resources from the growing livestock industry and increasing human population. As such, the real challenge lies in creating a balance between the need for wildlife and other resource conservation in Botswana, and meeting the resource requirements and needs of future generations, without placing the country's economy or environment at risk (Mbaiwa, 1999).

As many of Botswana's natural resources are under threat, it is important for the country to find ways and strategies to protect these resources, while at the same time utilising them for commercial gain. Such policies and projects must also ensure the socio-economic development of the local communities, and must take into consideration the needs and values of the local people. Community participation is an aspect of human development where people are closely involved in the economic, social, cultural and political processes that affect their lives. Community participation in natural resource management should, therefore, be regarded as a process that empowers local people and ensures their increased access to and control over such resources, and the socio-economic and political matters that affect their lives. It must also be seen as an approach to rural development which shifts from top-down, to bottom-up, from centralised government to local participation, and from blueprint to learning process (Mbaiwa, 1999).

The people of the Okavango Delta and surrounding areas utilise a wide variety of natural resources. These include, amongst others, vegetation resources for food, fuel, medicine and building materials, fish resources for food and raising cash incomes, wildlife for subsistence hunting, and more recently, for community-based tourism ventures.

This chapter focuses on the present day use of natural resources by the local communities in the Okavango Delta. It presents an appraisal of the critical issues relating to current natural resource utilisation and management structures in the Okavango, with particular reference to tourism's impact upon the Delta's natural resources. Lastly, it provides an overview of the Community Based Natural Resource Management (CBNRM) programme, implemented in the Okavango Delta in 1995.

7.2 Wildlife, Fish and Vegetation Resources in the Okavango Delta

7.2.1 Wildlife Resources in the Okavango Delta

Wildlife used to exist in most of Botswana in abundance and although the country still has large numbers of animals, populations have declined. There are presently around 160 species of mammals, 550 species of birds, 157 species of reptile, and 38 species of amphibians. The expansion of human settlements is a contributing factor to the decline in numbers, as is illegal hunting, a shortage of water and a loss of grazing land. The species most affected by decline are wildebeest, zebra and hartebeest. For example, in the Makgadikgadi area, it is estimated that numbers have decreased by 30 percent over the past decade. However, despite this general decline, some animal populations have remained either stable or, in some cases, increased. The most notable case regarding the latter is that of elephants, whose population has increased from 40 000 animals in 1991 to 105 000 by the end of 2001 (Keatimilwe, 1992; OPWT, 2004).

There is a close and mutually beneficial link between the Okavango region's wildlife resources and the tourism industry. It is the wildlife, as well as the areas other

natural resources of water and pristine wilderness that draws so many people to the Okavango from around the world. In turn, the wildlife and their habitat gain value and protection because they are important to visitors and therefore to the enterprises that earn money from tourism (Mendelsohn and el Obeid, 2004).

The majority of local inhabitants of the Okavango region, however, see wildlife as of no real benefit since hunting is only allowed, with the issuing of permits, in certain areas of the region. Local farmers often experience problems from wildlife, such as crop damage from elephant and antelope, and many farmers feel that the Delta is 'wasted' as a wildlife refuge and tourist destination, and there is often competition between livestock and wildlife for grazing. It is therefore only a very small percentage of the population of the Okavango region that experience direct benefits from the preservation of wildlife. These are generally only those individuals that are directly involved in the tourism industry, or part of successful community based tourism projects (Makhajwe *et al*, 1995).

Although often politically portrayed as an already secured resource, and even as a conservation success, the Okavango is still under threat. Alarming losses in biomass and bio-diversity are being observed in the fauna and flora populations of this area. A clear indication of the extent of the problem is the decline in the wildlife population of the region (OPWT, 1998).

Historical records and DWNP aerial survey data shows that most large mammal species in the Ngamiland District, as well as the rest of Botswana, have significantly declined since the late 1970s (some by up to 90 percent) (Table 7.1).

These declines in wildlife numbers are a result of a number of factors. These include contractions in wildlife ranges caused by human development in the Okavango Delta, competition over land and grazing within the livestock industry, and the erection of veterinary fences, in particular the northern Buffalo Fence which has led to the cutting off of the wildlife range between the Okavango and Kwando Rivers. The fence will eventually lead to the extinction of wildlife populations to the west of the fence, and to further declines east of the fence. The commercial and subsistence hunting of certain species has resulted in regional extinctions in the Delta area. In spite of adequate water, buffalo are rarely seen anymore in the Okavango outside of

Table 7.1: Approximate Changes in Mammal Specie Numbers in Ngamiland District Since the Late 1970s

Specie of Mammal	Approximate increase/decrease since the late 1970s
Elephant	+ 5.7% per annum
Impala	+ 7.2%
Eland	- 36% since 1979, extinct in large areas on Delta
Hartebeest	- 15.9%
Hippopotamus	- 32.8%
Warthog	- 44.3%
Zebra	- 14%
Ostrich	- 7.5%
Giraffe	- 5%
Lechwe	- 14.7%
Buffalo	- 14.9%
Sitatunga	- 33.5%
Rhinoceros	Extinct in Okavango Delta
Tsessebe	Figure unknown, but decline apparent in Okavango since the late 1970s
Kudu	Figure unknown, but decline apparent in Okavango due to reduction in habitat
Sable, Bushbuck, Waterbuck	Figure unknown. Extinction of species in south-east and south-west Okavango

Source: Adapted from Okavango People's Wildlife Trust (OPWT), 1998, p.1; Department of Wildlife and National Parks (DWNP), 2003.

the Moremi Game Reserve, and have indeed been hunted to extinction in the south-west and south-east of the Okavango. Other species, including sable, bushbuck, eland, hartebeest and roan have also been seriously affected by indiscriminate hunting, to the extent that these species will probably have to be reintroduced back into the area if they are to be found in the Okavango Delta in the future (OPWT, 1998). There are no conclusive records available for bird, reptile and fish populations, but observations by the OPWT indicates several declines in these animal groups too (OPWT, 1998).

According to personal interviews conducted with Itweleng Morewabone, Wildlife Warden for The Department of Wildlife and National Parks (DWNP) in Maun, Mompoloki Sechele, Wildlife Biologist with the Department of Wildlife and National Parks (DWNP) in Maun, and Dr. Debbie Gibson, Senior Technical Advisor with the Department of Wildlife and National Parks (DWNP) in Maun, there have been significant declines in wildlife numbers in the last two years in the Okavango region. This is a result of a number of factors, including the increase in man-made fires in the area, the increase in human population in Ngamiland, resulting in human encroachment into wildlife areas and loss of wildlife habitat to development, legal hunting and illegal poaching of animals. Additionally, competition between wildlife and the agricultural industry has also led to the killing of wildlife in Ngamiland. Most of the local communities in the Okavango Delta illegally kill or poach animals they perceive to be a threat to their livestock and crops. For example, according to personal discussions with expatriate employees in the tourism industry in the Panhandle area of the Okavango, the presence of very large crocodiles is becoming increasingly rare in the area as local inhabitants illegally shoot them before they become too large due to the perceived threat they pose to livestock, particularly horses and goats in the area. Moreover, according to Itweleng Morewabone of the DWNP in Maun, a total of ten local inhabitants were killed by wildlife in 2004 in the Okavango Delta while collecting veld products and thatching grass. This too leads to the illegal killing of wildlife as it is a perceived threat to human life.

Some of the more important factors leading to decline in wildlife numbers are discussed below. It is important to note that no single factor operates in isolation.

7.2.1.1 Habitat Degradation by Man-Made Fires

Annual man-made fires, often linked to hunting activities, burning to stimulate new growth of grass in livestock grazing areas, collecting wild honey, felling trees and the preparation of land for agriculture, remove food supply and shelter during the breeding season for many animals and certain bird species in the Okavango Delta area. Fires burn up to 70 percent of the Okavango annually and repetitive fires are now scorching wetland areas, marshes and riverine forests (OPWT, 1998).

According to personal interviews conducted with M. Mashotja, T. Madipa, and Letileng Mmika in 2004, from the Department of Agricultural Research in Maun, on the impact of fires in the Okavango Delta, the greatest impact caused by the uncontrolled burning of the Delta area is the loss of habitat and grazing areas for wildlife. The fires in the Okavango have increased in frequency due to increased human presence in the area. This increase is also apparently due to the increasing absence of bulk grazers such as buffalo, who would tend to reduce grass biomass (OPWT, 1998).

Burning of the grasslands and the leaves on the lower extremities of trees results in elephant pushing such trees over in order to reach the edible leaves higher up on the tree. The tree is not necessarily killed when it is pushed over, but a subsequent fire does usually kill the tree. The destruction of trees by fire is often blamed on elephants (OPWT, 1998).

The increase in fires in the Okavango Delta is now part of a vicious cycle where the decline and absence of animals which should be cropping the grasslands renders the grasslands under-utilised and fire prone. Fires are then set for convenient hunting, in the process destroying fodder and trees – causing further degradation to habitats and in turn, wildlife declines. Fires also serve to concentrate animals, causing further habitat degradation of unburned areas (OPWT, 1998).

The recorded impacts of fires in the Okavango Delta include:

- Destruction of forests, reed and papyrus beds;
- Killing of mature and seedling trees through repetitive annual scorching and debarking;
- Termination of plant re-growth;
- Reduced biomass and diversity in plant populations;
- Invasion of unpalatable pioneer plants, e.g., Wild Sage (*Pechuel-loeschea* leubnitziae or 'Mokodi');
- Transformation of woodland to scrubland;
- Reduced biomass and bio-diversity of wildlife;

- Death of wildlife and domestic stock, including animals burnt to death along veterinary fences while trying to escape (several thousand animals are burnt to death along fences throughout Botswana each winter or dry season);
- Disruption of natural migration patterns;
- Habitat loss - Animals flee burnt areas and overcrowd unburned areas, resulting in unhealthy competition, reduced breeding rates, overgrazing, etc.;
- Exposure of floodplains and subsequent increase in evapo-transpiration rates;
- Soil composition change;
- Sheet erosion;
- Ash poisoning leading to 'dead-water' and possibly fish die-off; and
- Loss of human life and property (OPWT, 1998).

7.2.1.2 Fences

Ill-placed veterinary fences, constructed without environmental or social impact assessments continue to trap and kill significant numbers of wildlife. Fragmentation, obstruction of vital territorial and migratory movements, loss of access to critical resources, among other impacts, causes severe stress, increasing death rates and decreasing birth rates. Irreversible population declines have occurred and appear to be ongoing (OPWT, 1998).

Severe declines in the number of roan antelope, eland, wildebeest and giraffe have been observed recently along newly constructed fences in the Ngamiland District. Continued impacts threaten the demise of the remaining wildlife populations to the west and north of the Okavango Delta (OPWT, 1998).

7.2.1.3 Cattle Ranching

Plans to develop private, commercial cattle ranches to the west and north of the Delta are a threat to wildlife populations. Such developments will further fragment habitats, block migration routes, displace local communities and generally lead to

environmental degradation. If the Okavango Delta and its wildlife is to remain a healthy, functioning and protected ecosystem, the areas surrounding the Delta must also be conserved. The Okavango Delta is too complex an ecosystem to survive as a 'protected island' surrounded by commercial development (OPWT, 1998).

7.2.1.4 Hunting

The Department of Wildlife and National Parks (DWNP), faced with the task of monitoring wildlife management in Ngamiland, is severely constrained in terms of manpower and resources, and hence cannot monitor the hunting industry in the Okavango Delta effectively. Consequently, uncontrolled hunting, based on unscientific methods and quotas are having a negative impact on biomass and diversity. Specific impacts include:

- Over-hunting;
- Selective species hunting, causing imbalances;
- Hunting during the mating season. Removal of territorial breeding animals and harassment, affecting reproduction patterns and rates; and
- Hunting of prime and immature male animals, thereby affecting the gene pool (OPWT, 1998).

Elephant range increased as a result of the ban imposed on elephant hunting in 1983, after which elephants gradually moved out of the Moremi Game Reserve and Chobe National park into the then again safe areas throughout the whole of northern Botswana. However, since elephant hunting was reintroduced in 1996 this process is already beginning to reverse. Elephant are once again starting to concentrate only in non-hunting areas, such as the Moremi Game Reserve, Chobe National Park and the photographic concession areas in the Okavango Delta. This is leading to habitat degradation through the over-population of elephant in these areas. The congestion of elephant in the Moremi Game Reserve during the years prior to 1983, caused the destruction of the *Acacia erioloba*, *Acacia tortilis*, *Acacia nigrescens* and *Hyphaene ventricosa* (real fan palm – used heavily in basket making) populations of the reserve (OPWT, 1998).

Experience shows that some animals, particularly elephant, are simply intelligent enough to realize that their lives are being threatened. Hence many of the elephants outside of protected areas have already moved into 'safer areas' in northern Botswana, leaving hunting areas with lower elephant population densities and causing the congestion of protected areas (OPWT, 1998).

Harassed and wounded elephants, and other animals, constitute a danger to both hunters and local communities living within hunting areas, as they do not exhibit normal behaviour. In addition, the majority of the inhabitants of Ngamiland District, due to cultural beliefs, do not eat elephant meat. As such, trophy hunters have left approximately 70 tons of surplus elephant meat out in the field in the Okavango region to rot each year since 1997. This amount will probably reciprocate with increases in the elephant hunting quota (OPWT, 1998).

Hunting, when done scientifically, could be a sound management tool where animals are over-populated and congested. It has a negative impact where populations are dispersing, in decline, or of a low abundance – as in the case in the Okavango Delta and Ngamiland District (OPWT, 1998).

7.2.1.5 Lack of Community Participation in Wildlife Management

Approximately 4459 people, less than one percent of the Ngamiland population, are involved in wildlife management activities in the District. Sixty-eight percent of the Wildlife Management Areas (WMAs) in the Okavango have no community participation. The local communities who are not involved in the wildlife industry see the Delta as being wasted, and as they represent the majority of Ngamiland's population, naturally pose a threat to the long-term survival of the Delta (OPWT, 1998).

7.2.1.6 Lack of Planning, Co-ordination and Communication

Joint decision making, co-ordinated planning and management are severely lacking with regard to the Okavango Delta and its resources. Government departments often act in isolation, without consulting other stakeholders. Environmental Impact Assessments are still an alien concept and there is very little consultation with local

communities regarding all matters relating to land-use and the environment. Lack of communication and the absence of a common vision, plan and purpose, appear to be the greatest threats to effective problem solving in the region. It is in this area that non-governmental organisations (NGOs) can have the greatest positive input (OPWT, 1998).

7.2.2 Local Communities and Wildlife Resources in the Okavango Delta

7.2.2.1 Benefits to Local Communities From Wildlife Resources

Research conducted by Mbanefo and de Boerr (1993) in Zimbabwe and Prosser (1996) in South Africa, on the use of wildlife by local communities indicates that there are possible benefits that can accrue to local people living in wildlife areas. These benefits include employment in the wildlife industry, the development and provision of infrastructure in the local villages through the creation of a tourism industry such as improvements to the water supply and roads, craft work sales to tourists, the development and creation of wildlife-based tourism activities such as photographic tourism which generates revenues from gate fees, etc., and hunting (both commercial and subsistence). Other potential benefits that local people can derive from wildlife areas include access to natural resources such as forest and veld products, arable land for agriculture and grazing land for livestock.

Information regarding the Ngamiland District, however, indicates that the majority of local people in the area derive no, or at the most, only limited benefits, from the Okavango's wildlife resources. According to the 50 local inhabitants interviewed in the Okavango Delta between 2003 and 2004, the greater majority (36 or 72 percent), including all the interviewees from Maun, stated that they, and the majority of the inhabitants of the Okavango Delta area as a whole, received no individual or household benefits from the wildlife resources in the Okavango Delta. The remaining 14 interviewees or 28 percent stated that they felt that wildlife benefits do accrue to both themselves and other inhabitants of the Okavango. The principle benefits that local communities get from wildlife include meat (from subsistence hunting with a permit), income from the sale of community wildlife quotas to safari operators, and indirectly through revenue derived from individual sales of baskets and wood carvings to wildlife-viewing tourists. According to Mbaiwa (1999), most of the local

inhabitants of the Okavango Delta region hold the view that as wildlife resources and land belong to the central government, and not the local communities, they are not able to see how the existence of wildlife in the Okavango Delta, or anywhere else in Botswana, can be used to possibly benefit them.

A study was conducted in 1999 by Mbaiwa, on the prospects for sustainable wildlife resource utilisation and management in east Ngamiland District, focusing on the three villages of Khwai, Mababe and Sankuyo (see Figure 5.4 in chapter five), located on the eastern edge of the Okavango Delta. All three of these villages are involved in the Community-Based Natural Resource Management (CBNRM) Programme. A total of 95 local inhabitants (32 from Khwai, 31 from Mababe, and 32 from Sankuyo) were interviewed in these three villages by Mbaiwa, regarding their attitudes and perceptions towards wildlife and its conservation in the Okavango Delta area. According to Mbaiwa (1999), 62.1 percent of the 95 people interviewed stated that they derive no household benefits from either wildlife resources or tourism in their area. Only 37.9 percent felt that wildlife benefits do accrue to households in these three villages (Table 7.2)

Table 7.2: Household Benefits From Wildlife Resources in the Villages of Khwai, Mababe and Sankuyo (1999)

Village	Benefits	No Benefits	Total
Khwai	9 (28.1%)	23 (71.9%)	32 (100%)
Mababe	6 (19.4%)	25 (80.0%)	31 (100%)
Sankuyo	21 (65.6%)	11 (34.4%)	32 (100%)
Total	36 (37.9%)	59 (62.1%)	95 (100%)

Source: Adapted from Mbaiwa, 1999, p. 100.

The figures in table 7.2 show that there is a disparity in responses between the three villages of Khwai, Mababe and Sankuyo regarding the wildlife benefits. This is due to the fact that, at the time of the Mbaiwa (1999) study, limited wildlife benefits were starting to accrue to individuals in the villages of Sankuyo and Khwai, in the form of employment. In Sankuyo, there are 66 people employed in the safari company, Crocodile Camp Safaris, which has leased the Sankuyo concession area for

commercial hunting ventures. In Khwai, approximately nine locals are employed in the Tsaro Elephant Lodge and Khwai River Lodge. Employees from both these villages perform tasks such as skinning animals from hunts, house keeping, cooking, and one man from Khwai is employed as a driver and tour guide. In Mababe, no one is employed in any wildlife related activity (Mbaiwa, 1999). As such, there is a direct correlation between individual benefits received from wildlife or any other resource, and people's perception of it, and its importance.

According to the 50 local inhabitants personally interviewed in the Okavango Delta between 2003 and 2004, approximately 86 percent (43 individuals) felt that benefits from wildlife, in the form of revenue, accrue exclusively to the Botswana Government, safari hunters and tour operators. Only 7 (14 percent) stated that some of the benefits also accrue to the local inhabitants of Ngamiland District. While many of the inhabitants of the Okavango Delta are aware of the potential benefits wildlife resources can bring, these wildlife returns are mostly not realized at the household level.

7.2.2.2 Role of Local Communities in Wildlife Management

The attitudes of local communities living in wildlife areas are largely influenced by the degree of ownership of, and benefits received from, the wildlife in their area. The local communities in the Ngamiland District do not have any major policy-making function, nor are they included in the formulation of management plans in any significant way, regarding wildlife utilization and management in their district.

Referring to the three villages of Sankuyo, Khwai and Mababe, Mbaiwa (1999) noted that 93.7 percent of the 95 locals interviewed stated that the government never consults or involves their respective villages or communities in the formulation of wildlife management laws or policies, even if the law or policy directly affects them. Only 6.3 percent claimed that the government involves locals in management plans. Furthermore, it is generally felt that government officials in Ngamiland only inform local communities of such wildlife laws and policies just prior to their implementation, usually through a *Kgotla* meeting. This situation is echoed by Barnes (1998) who argues that most of Botswana's wildlife resources are public property and hence

control is vested with central government. People in wildlife areas therefore have very little control or ownership over such resources.

The fact that local communities play no significant role in the formulation of policies regarding wildlife management is confirmed by the failure of the Wildlife Conservation Policy of 1986 to provide for community empowerment in wildlife utilization and management. Community empowerment in this case denotes the training of local people in decision-making, provision of employment, provision of skills and education in wildlife conservation, and ownership and control of wildlife resources. According to Mbaiwa (1999), 49.5 percent of the 95 local inhabitants interviewed in Sankuyo, Khwai and Mababe felt that government wildlife policies have failed to provide community empowerment, while 33.7 percent stated that community empowerment has been provided, but it is insufficient and inadequate. The remaining 16.8 percent of interviewees had no opinion on the matter (Mbaiwa, 1999).

According to the 50 local inhabitants personally interviewed in the Okavango Delta, 39 (78 percent) stated that they felt that the participation of local communities in wildlife management in the area was important. Only 11 (22 percent) felt that it was not necessary. The 39 individuals felt that wildlife management needs to be a shared responsibility between resident communities in wildlife areas and the Department of Wildlife and National Parks (DWNP). Many feel that a combination of both local traditional knowledge of wildlife resource utilization, and the modern, scientific and legislative powers of the DWNP, would prove more effective in achieving long-term sustainable wildlife management and preservation, than through the present, top-down, centralized management approach.

7.2.2.3 Attitudes and Perceptions of the Local Communities

According to Mordi (1991) and Perkins and Ringrose (1996), the general attitudes and perceptions of most of the local inhabitants of the Okavango Delta area are predominantly negative towards wildlife conservation. The Botswana Government is perceived to have usurped wildlife resource control and ownership from the local people. Hence, wildlife resources are generally regarded as being government property and not a communal resource. Findings by Mwenya *et al* (1991) in

Zimbabwe revealed that people's attitudes are largely based on the personal or communal ownership and benefits they attach to, and receive from, wildlife resources. Mwenya *et al* (1991) assessed people's attitudes and perceptions on wildlife conservation through the issue of 'who owns wildlife' and 'who should manage it'. Their findings indicate that people will only view wildlife resources as 'theirs', and participate in its conservation if they realise the benefits from 'owning' such resources. Hence, sustainable wildlife management will only be possible if carried out as a partnership between local communities and the government (Mbaiwa, 1999).

Mbaiwa (1999) states that 60 percent of the inhabitants interviewed in Sankuyo, Khwai and Mababe regard the protected areas of Moremi Game Reserve and Chobe National Park as being in direct conflict with the socio-economic activities of people in the region (e.g., the collection of veld products, firewood, crop production, livestock farming and subsistence hunting) (Table 7.3). The respondents stated that they are denied access and benefits from resources in protected areas by the government through the Department of Wildlife and National Parks (DWNP), and hence view the establishment of these areas as a negative development. Furthermore, they regard the extension of these areas into communal land as a government step to deny them the use of wildlife resources and veld products in the area (Mbaiwa, 1999).

Table 7.3: Conflict of Protected Areas with the Socio-Economic Activities of the Local People

Village	Conflict	No Conflict	Total
Khwai	24 (75%)	8 (25%)	32 (100%)
Mababe	21 (67.7%)	10 (32.3%)	31 (100%)
Sankuyo	12 (37.5%)	20 (62.5%)	32 (100%)
Total	57 (60%)	38 (40%)	95 (100%)

Source: Adapted from Mbaiwa, 1999, p. 115.

In order to understand the nature of the conflict, one must realize that the Moremi Game Reserve was established on communal land belonging to the Batawana, without much consultation with the local communities living in the area. This approach resulted in the removal of communities in the area, to establish a wildlife

conservation area. This led to conflict between local communities and the Department of Wildlife and National Parks. Today, local people are still allowed to enter the Moremi Game Reserve to collect veld products or to pass through it on their way to other villages, but they have to pay gate entrance fees. This naturally restricts the access of the reserve to local people in the area (Mbaiwa, 1999).

The recent extension of the Moremi Game Reserve boundaries into communal land has led to further conflict with local communities living on the reserve boundaries. The local people expressed concern that these extensions were made without their consultation, and hence deprived them of more land and its resources (Mbaiwa, 1999).

According to Mbaiwa (1999), 71.6 percent of the 95 individuals interviewed in the three villages of Sankuyo, Mababe and Khwai, stated that they received no benefits from tourism in the area (e.g., income, employment, improved infrastructure). Actually, these respondents felt that tourism in the area is destructive in that tourists take pictures of their children and huts without permission, their vehicles make noise and some pass through their villages at high speeds. Only 28.4 percent of them stated that they got benefits from tourism through the sale of their craft work. Tourism, therefore, is viewed by the people as an economic activity that yields revenues only to the government and private safari operators. This suggests that the people's perceptions towards tourism remains largely negative as they derive little benefit from it (Mbaiwa, 1999).

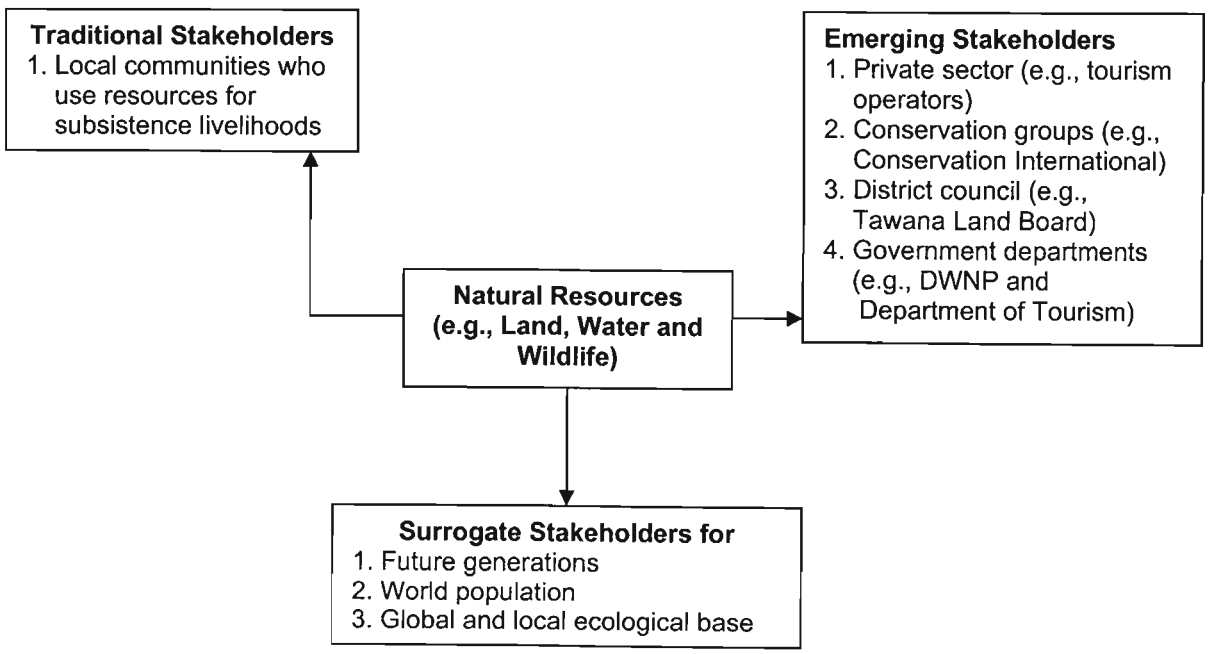
From the above findings, it can be concluded that the attitudes and perceptions of the people of the Okavango Delta area are predominantly negative towards wildlife conservation. Despite this, there is also evidence that people's attitudes are slowly beginning to change in the Delta. Some people in the area do attach some value to wildlife as a useful and necessary resource.

7.2.3 Stakeholders and Resource Use Conflicts in the Okavango Delta

Conflicts over resources arise when several interest groups attempt to use the same resources for different outcomes in the same area or geographical location. In the Okavango Delta there are two main groups of land and resource use stakeholders:

the traditional and the emerging stakeholders, as shown in Figure 7.1 below. The traditional stakeholders include the local inhabitants of the Okavango Delta such as the Basarwa, Wayeyi and Batawana, etc. The emerging stakeholders include the various government ministries and departments, the tourism private sector, and local conservation groups such as the Kalahari Conservation Society, Okavango People's Wildlife Trust and Conservation International. There is also a third stakeholder group that has a vested interest in the manner in which the Delta and its resources are utilised. This is the Surrogate Stakeholders, which include the world population, future generations, international conservation groups and the global ecological resource base.

Figure 7.1: Resource Stakeholders in the Okavango Delta



Source: Adapted from Mbaiwa, 1999, p. 110.

Table 7.4 below summarises the major stakeholders and their land use and resource activities and conflicts in the Okavango Delta area.

Table 7.4: Main Stakeholders, Land and Resource Use Activities and Conflicts in the Okavango Delta Area

Main Stakeholders	Land Use and Resource Activities	Land Use and Resource Conflicts
1. Local Communities		
- Basarwa (San) and Bantu-speaking groups such as the Hambukushu and Wayeyi	- collection of natural resources such as veld products, firewood, fishing etc	- conflict with the DWNP and government wildlife conservation policies, especially over protected areas such as the Moremi Game Reserve
	- subsistence hunting activites by local communities	- conflict with DWNP and government enforced hunting restrictions
	- expansion of crop and livestock farming in wildlife areas.	- competition for land between locals, DWNP and government, and tourism sector
- Batawana in Maun	- desire to gain control over Moremi Game Reserve (as area is considered Batawana territory)	- conflict with government over control of the area and its resources
2. Government of Botswana		
- Department of Wildlife and National Parks (DWNP)	- implementation of government wildlife conservation policies	- conflict with the socio-economic activites of local communities e.g. arable and livestock farming, hunting and gathering etc
- Department of Tourism	- promotion of government laws on tourism, e.g. the development of consumptive and non-consumptive tourism	- conflict with local communities over resource use, and conservation groups over the influx of tourists into the sensitive Okavango Delta
- Ministry of Agriculture	- implementation of agricultural policies	- conflicts with DWNP and tourism sector over land, water and grazing
	- erection of veterinary fences	- competition for land between wildlife and livestock; fences block wildlife migratory routes; fences also help keep livestock numbers in the Delta low
- Department of Lands	- implementation of government land policies in the area	- the zoning of land into WMAs and CHAs conflicts with local people's traditional land use patterns
- The Tawana land Board	- allocation and distribution of communal land	- allocation of land for agriculture and human settlement in wildlife areas leads to conflict with DWNP and conservation groups
	- leasing of communal land to tourism operators	- conflict between local communities and the tourism sector

3. Private Tourism Sector - Consumptive Tourism e.g. commercial hunting	- promotion of safari hunting activities in the area	- safari hunting competes with subsistence hunting for wildlife resources; commercial hunting regarded as being detrimental to wildlife by conservation groups
- Non-consumptive Tourism e.g. photographic tourism	- promotion of photographic safaris throughout the Delta	- conflict between local populations and tourism sector over land use; competition for wildlife resources between non-consumptive tourism and hunting sectors
- Tourism Accommodation Sector e.g. lodges around the Okavango Delta	- provision of accommodation to tourists	- competition for prime land areas between tourist sector and local communities; competition between commercial tourist facilities and community-based tourism ventures; conflict between tourist sector and conservation groups over impacts of tourism in the Okavango Delta
	- provision of wildlife viewing opportunities and services to tourists	- conflict between toursm sector and conservation groups over impact of tourism on wildlife
- Tourists	- involved in tourist activities such as game viewing etc.	- conflict between tourists and local communities, who do not appreciate the presence of tourists in their villages/community areas; conflict between local communities, conservation groups, and tourism sector over the impact the presence of tourists is having on the Okavango Delta, and its communities
4. Non-Governmental Conservation Organisations - Okavango People's Wildlife Trust (OPWT); Conservation International (CI); Kalahari Conservation Society (KCS)	- promotion of the conservation of the Okavango Delta and its resources	- conflict with Ministry of Agriculture over erection of veterinary fences, which block wildlife migratory routesetc.; conflict with tourism sector over influx of tourists into the Delta
5. International Community - Namibia and Angola	- use of Okavango River waters	- conflict between governments over proposed use of the Okavango's water
- International Conservation groups such as Greenpeace etc.	- Okavango Delta is a registered Ramsar site and regarded as an area of global ecological importance	- conflict with government over issue of veterinary fences

Source: Adapted from Mbaiwa, 1999, p. 111 – 114.

7.2.3.1 Arable Farming and Wildlife Management

There is also conflict between crop production and wildlife management in the Okavango Delta area. According to Mbaiwa (1999), 81.1 percent of the inhabitants in the three villages of Sankyo, Khwai and Mababe, who ploughed their fields and planted crops between 1996 and 1999 experienced crop damage, mostly from hippopotamus, elephants and zebras (Table 7.5). The remaining 18.9 percent of the respondents who did not experience crop damage either did not plough their fields during these years or have since stopped practicing subsistence agriculture due to anticipated fear of crop damage from wildlife. In Khwai and Sankuyo, the larger fields which used to lie on the western side of the village have been abandoned due to wildlife destruction, thus restricting crop cultivation to small gardens situated behind huts in the compounds (Mbaiwa, 1999).

Table 7.5: Number of Farmers Experiencing Crop Damage from Wildlife between 1996 and 1999

Responses	Number	Percentage
Ploughed	77	81.1
Did not Plough	4	4.2
Stopped Ploughing	14	14.7
Total	95	100

Source: Adapted from Mbaiwa, 1999, p. 116.

Elephant and hippopotamus are more of a problem at Khwai, elephant and zebra at Mababe and elephant at Sankuyo, in terms of crop destruction in the area. Due to livestock and crop damage, many people in the Okavango Delta regard certain species, particularly hippopotamus and elephant, as being a nuisance rather than an asset to themselves or the area. The elephant is also reported to destroy areas of wild grass used by locals for thatching, and wild fruits (veld products) through eating and uprooting trees which are resources that many local inhabitants of the Delta are still partially dependent on.

Amongst the respondents who experienced crop damage from wildlife, 70.5 percent reported the matter to the DWNP, while 9.5 percent failed to do so. The explanation given for failing to report this damage was that the DWNP takes so long to respond

and the compensation provided is generally so small that it is not worth reporting the damage. Of the respondents that did report crop damage to the DWNP, 4.2 percent were compensated and were happy with their compensation, 24.2 percent were compensated and were not happy with the compensation, while 44.2 percent stated that they had never been compensated (Mbaiwa, 1999).

The main reason given for dissatisfaction with compensation is that the amount of money they receive is generally very little, and the DWNP takes a very long time to pay this out. The DWNP is also often reluctant to award compensation as they stated that some of the areas where people are practicing crop production are wildlife areas (such as in the Khwai area) and hence damage is to be expected. According to the DWNP Annual Report for 1996/1997, government compensation rates for the period were only Pula 100 for crop damage for a minimum of one hectare. Most of the crop fields in these villages are less than one hectare and hence many of the farmers do not qualify for compensation (Mbaiwa, 1999).

The local communities have suggested several ways which can be used to reduce the problems related to crop damage by wildlife in the area. These include erecting electric fences around their fields (common view at Mababe and Sankuyo), increasing compensation money, stop crop farming altogether as it cannot operate in wildlife areas (view common at Khwai) and the reduction of elephant populations and the killing of problem animals (Mbaiwa, 1999).

7.2.3.2 Livestock Farming and Wildlife Management

There is also conflict, but to a lesser degree, between livestock farming and wildlife management in the Okavango Delta. Livestock ownership in the Okavango Delta is generally low, and as such, only 37.9 percent of the 95 individuals interviewed by Mbaiwa in the villages of Khwai, Mababe and Sankuyo own livestock, which comprises mostly goats and donkeys (Table 7.6).

Table 7.6: Livestock Ownership in Khwai, Mababe and Sankuyo (1999)

Village	Own Livestock	No Livestock	Total
Khwai	3 (9.4%)	29 (90.6%)	32 (100%)
Mababe	15 (48.4%)	16 (51.6%)	31 (100%)
Sankuyo	18 (56.2%)	14 (43.8%)	32 (100%)
Total	36 (37.9%)	59 (62.1%)	95 (100%)

Source: Adapted from Mbaiwa, 1999, P. 119.

All of the 36 individuals that owned livestock in these three villages also stated that some of their livestock had either been killed or injured by wildlife, particularly lion, leopard, hyena or jackal between 1996 and 1999. Of these 36 individuals, 24.2 percent stated that they reported their loss/damage to the DWNP but did not receive any compensation. Only 6.3 percent stated that they did receive compensation from the DWNP, but were not happy with the compensation. The remaining 69.5 percent did not report their stock damage to the DWNP (Mbaiwa, 1999).

The same reasons were given as for crop damage, as to why people are reluctant to report damage or loss from wildlife to the DWNP. These include inadequate compensation amounts, a lack of response, or delayed responses from the DWNP, as well as complicated bureaucratic processes that individuals have to go through to apply for compensation. According to the DWNP Annual Report of 1996/97, approximately Pula 1.8 million worth of compensation claims were left unpaid from 1995 onwards due to the limited government budget awarded to the DWNP for compensation claims, which stood at just Pula 816 000 for 1995/96 and Pula 936 000 for 1996/97. Compensation is also only paid out for damage caused by specific animals (schedule 9), namely lion, leopard, elephant, buffalo, rhinocerous, hippopotamus and crocodile. Hence, farmers who experience loss or damage from animals such as hyena and jackal – which is quite common – do not qualify for compensation (Mbaiwa, 1999). Table 7.7 shows the compensation rates for livestock during 1996/97.

Table 7.7: Government Compensation Rates for Livestock (1996/97)

Domestic Animal Injured/Killed	Compensation Rate per Animal
Bull, Ox or Tolly	Pula 520
Cow, Heifer or Mule	Pula 400
Calf or Foal	Pula 200
Horse	Pula 800
Donkey	Pula 70
Goat or Sheep	Pula 100

Source: Adapted from Department of Wildlife and National Parks, 1996/97; Mbaiwa, 1999, p. 120.

The local communities have suggested several ways to reduce the problems related to livestock damage by wildlife in the area. These include an increase in compensation fees, the killing of problem animals with the trophies handed to the affected farmer, and the stopping of livestock production in wildlife management and tourism areas (Mbaiwa, 1999).

7.2.4 Integrated Wildlife Management in the Okavango Delta

The integration of wildlife conservation and other socio-economic development sectors in Ngamiland District is almost non-existent. Socio-economic development policies and programmes in the area are implemented independently of each other. This approach to economic development has impacts on wildlife populations in the area. Even though attempts have been made by the Botswana Government to address environmental issues in the country through the establishment of the National Conservation Strategy (NCS), wildlife resource integration into the overall policy management framework is largely marginalised or ignored. This is demonstrated by the fact that the NCS seeks to address five fundamental environmental challenges considered to be of national concern, of which the future of Botswana's wildlife is not one. These are pressure on water resources, degradation of pasture (livestock) rangelands, depletion of wood resources, overutilisation of veld products, and pollution. As such, the Botswana Government has failed to integrate wildlife utilisation and management into the country's regional and national economic plan (Government of Botswana Paper No. 1 of 1990, Mbaiwa, 1999).

Furthermore, the NCS has failed to develop a legal framework by which it can coordinate the five environmental challenges it was established to address. Natural resource management is, therefore, the responsibility of the various government departments and ministries. This sectorial nature of land use policies causes conflict in the Okavango Delta, which threaten the sustainable management of wildlife in the area. For example, the Tawana Land Board is responsible for the allocation of agricultural land in the Okavango Delta, while the Ministry of Agriculture provides seeds and agricultural demonstrations to farmers, free livestock to Basarwa (San) farmers, and free veterinary assistance and vaccination of animals. There is very little or no co-ordination between these two government departments, even though they are both responsible for shaping agricultural production in the Okavango Delta. All these agricultural measures are implemented without consideration for wildlife conservation, due to the lack of co-ordination between agriculture and wildlife in Botswana (Mbaiwa, 1999).

Despite the importance of the role of Environmental Impact Assessments (EIAs) in sustainable development, the NCS in all its 15 years of existence, has just recently finished formulating draft EIA legislation, which has not yet been passed in parliament. While EIAs have been carried out voluntarily in Botswana, there is no legal policy or act which makes it mandatory for EIAs to be carried out prior to any development initiatives. This has resulted in the possibility of seriously destructive projects, such as the erection of veterinary fences throughout the Ngamiland District, being carried out, as there is very little accountability for environmental degradation in Botswana. The erection of the veterinary fences in Botswana, at the expense of the country's wildlife, is a further example of the lack of integration between livestock production and wildlife management (Mbaiwa, 1999).

The Department of Wildlife and National Park's wildlife utilization and management policies also lack provisions for the integration of wildlife management with other sectors and government departments. Although the Wildlife Conservation and National Parks Act of 1992 has consolidated the laws relating to wildlife conservation and management in Botswana, it has not addressed the question of how wildlife utilisation and management must relate to other sectors of the economy. The Act does not require EIAs to be conducted prior to the implementation of economic activities in National Parks, Game Reserves, Wildlife Management Areas and

Controlled Hunting Areas. The Act also makes it difficult to integrate wildlife utilization with other socio-economic activities. For example, the management of Moremi Game Reserve is not co-ordinated with the management of the surrounding community lands and areas. This results in these protected areas forming 'conservation islands' instead of larger, sustainable and continuous ecosystem areas that include the local communities living in the vicinity. Another example is that the wildlife tourism industry in the Okavango Delta ignores community development. Instead, local communities, such as those of Khwai village, are regarded by the tourism industry as a wildlife management problem. This is another aspect that encourages land use conflicts in the area because the various land use activities are not prioritized or co-ordinated. Wildlife management is therefore not conducted within the cultural and economic context of the people of the Okavango Delta who continue to view game parks and reserves as the property of the government, where local people are denied access to their former hunting and gathering lands (Mbaiwa, 1999).

Although aimed at promoting wildlife conservation, the Botswana Government's efforts of zoning the Ngamiland District into WMAs and CHAs, has created problems for wildlife management. This is because the zoning did not take into consideration the other socio-economic activities in the area, nor was any Environmental Impact Assessment (EIA) or Social Impact Assessment (SIA) conducted. As a result, this has led to land use conflicts, especially between wildlife management and traditional hunting and gathering activities in the Okavango Delta area (Mbaiwa, 1999).

Key informants in the wildlife industry in Ngamiland District appear to agree on the possibility of integrated wildlife management in the area, if it is associated with proper land use planning in the District. For example, members of the Okavango People's Wildlife Trust (OPWT) argued that integrated wildlife management in the area is possible if there is a return to the more traditional management methods and land use values. An example given is that of traditional pastoralism, which is more compatible with free-ranging wildlife populations as opposed to fenced commercial ranches (Mbaiwa, 1999).

The DWNP holds the more realistic view that the traditional approach of integrating wildlife management with agricultural production was possible in pre-colonial

Botswana because populations of both livestock and humans were small. Nowadays, human and wildlife populations are too large for wildlife management and agriculture to be conducted in the same area. Nevertheless, the DWNP acknowledges that a more integrated approach is needed, and is possible, if all sectors of the economy are given equal consideration in Ngamiland District (Mbaiwa, 1999).

7.2.5 Fish Resources in the Okavango Delta

Large numbers of fish are harvested/caught by both the local inhabitants of the Okavango Delta and tourists. However, fishing is still a secondary activity for most local people who live in this area, used mainly to supplement rural diets, and hence contributing little to the overall cash or in-kind incomes of the majority of rural homes. Most locals also pay less attention to fishing than to farming and business activities (Mendelsohn and el Obeid, 2004).

7.2.5.1 The Use of Fish Resources by the Local Inhabitants

According to the 50 local inhabitants interviewed throughout the Okavango Delta and Panhandle region, over half of the respondents, 32 people or 64 percent, stated that they consumed fish from the Okavango River/Delta (mostly bream) on a regular basis (at least once a week or more, when possible). A further 14 individuals (28 percent) stated that they occasionally ate fish from the Okavango River/Delta (maybe once a month), while 4 people (8 percent) stated that they generally never consumed fish from the Okavango.

Of the 46 local inhabitants interviewed that stated they did eat fish from the Okavango, just over half (54 percent) stated that either they, or a family member that they lived with (generally a young male), caught this fish from the River/Delta. The remaining 46 percent stated that they usually bought the fish from local fishermen or vendors in their respective towns/villages. Only 47 percent of those individuals stated that fish was the primary source of meat/protein for themselves and their families. The remaining 53 percent stated that they used fish as a secondary meat source to supplement their diets, and generally bought other types of meat (usually goat or beef) from local butcheries.

Of the 50 local people interviewed, only one person stated that he was a full-time commercial fisherman who relied predominantly on catching and selling fish to make a living. A further 3 people stated that they sometimes caught and sold fish commercially to supplement their incomes. The fish was sold both to local villagers and tourist facilities in the Okavango region.

In the smaller, more rural villages in the Okavango Delta region, traditional fishing methods are still used by many of the inhabitants. These include fish funnels and kraal and corral traps, mud-wall capture methods, fish fences with valved traps and corrals, woven scoop baskets, push baskets, bows and arrows, set fish hooks and spears. Modern equipment consists of gill, morden and seine nets, line and hooks, wire mesh fykes and mosquito nets. In the Delta, approximately 46 percent of the fishermen fish with line and hooks, 42 percent with traditional baskets, 14 percent with nets, 9 percent with spears and 6 percent with traps (Odell, 1976; Mendelsohn and el Obeid, 2004).

In the Okavango Delta around 3 200 people are reported to fish, 99 percent of whom are small-scale fishermen who catch for domestic consumption. The highest concentration of fishermen is in the Panhandle area as access to permanent water is much easier than elsewhere where most settlements are further from fishing grounds. The total weight of fish caught per year in the Delta generally does not exceed 400 tonnes: 270 tonnes caught by subsistence fishing and 130 tonnes by commercial fishermen (Mendelsohn and el Obeid, 2004).

The traditional fishing methods have been proven to be more ecologically sound as only certain sizes of fish are caught, enabling the fish populations to sustain themselves. For example, traditional woven fishing baskets, unlike modern fishing nets, have a loose weave, which allows the smaller fish (including juvenile fish) to escape from the baskets, helping to ensure the re-population of the Delta.

Fishing activities have changed significantly over the years in Botswana. One such change has been in the development of commercial fisheries and the expanding use of 'modern fishing' methods. Increasingly, traditional fishing methods and equipment, such as woven fishing baskets are being replaced by gill, mosquito and morden nets. Motor boats now allow fishermen to travel to areas throughout the

Delta, while previously inhabitants were only able to fish in areas accessible by mekoros (Makhajwe *et al*, 1995; Mendelsohn and el Obeid, 2004).

Another component to the commercialisation of the Delta's fish stocks is the sale of salted or frozen fish products. The Botswana Government vigorously promoted these ventures through the provision of financial assistance. Most funds went towards the purchase of modern fishing equipment (gill nets and motor boats) and training in methods of fishing, storage and marketing. However, these efforts have largely failed and the commercial fishing sector has generally collapsed, mainly because market demands for fish are just too small. Only about 41 people remained as commercial fishermen in 2002, mainly harvesting bream species (Mendelsohn and el Obeid, 2004).

According to the OPWT (1998), the promotion of the commercialisation of the Delta's fish stocks by the government is leading to the depletion of fish stocks in local fishing areas in the Panhandle and Upper Delta. The use of nets to catch fish by local populations is causing declines not only in fish numbers, but also damaging many other aquatic species. Ironically, much of the catch from the nets goes to waste as people are catching too many fish to consume, and refrigeration problems prevent the fish from being stored (OPWT, 1998).

The perishable nature of fish makes fishing a difficult industry, with problems associated with the preservation and marketing of the fish. The Department of Animal Health and Production in Botswana constructed cooling facilities at Shakawe in the Panhandle area and refrigerated trucks to transport fish to outer markets. However, in spite of this, the following problems persist: inadequate refrigeration facilities; limited transport from the Delta to outer markets in Botswana; the use of nets which are too fine and catch baby fish which are later just thrown away; and the shrinking of the Delta which is resulting in a decrease in fish spawning areas (Makhajwe *et al*, 1995).

As noted in Chapter Five, of the numerous habitats, the floodplains and seasonal swamps are of greatest value as areas in which most fish breed. Flooding begins when the rising river and channel waters push out over flat surrounding ground, and the largest floodplains form in years when river levels are highest. The most

significant feature of the flooded areas is that they are rich in nutrients, which, coupled with the water, allow for a lush growth of plants and the emergence of insects and other small animals. All these organisms provide young fish with a plentiful supply of food. The floodplains also offer the young fish refuge from larger, predatory species, and the greatest survival of young fish and overall increase in fish population occur in years when water levels are high and flooding lasts longest. The key point therefore is that the annual flooding of the rivers is the primary driving force for the breeding of fish in the whole of the Okavango River system (Mendelsohn and el Obeid, 2004).

7.2.5.2 Use of Fish Resources by the Tourism Industry

The tourism industry in the Okavango Delta region relies heavily on the commercial use of the Okavango's waterways, and recreational fishing is an integral part of the Delta's tourism industry. Many tourists come to the Okavango, particularly the Panhandle region, solely to fish, and there are numerous lodges and camps in the upper Delta and Panhandle whose primary focus is the sale of fishing opportunities to tourists. Although fishing takes place all year round, the months of September to December are the peak recreational fishing months in the Delta when the river is at its lowest and the fish are most concentrated. Tiger Fish, bream, barbel and pike are the main species sought by recreational fishermen (Makhajwe *et al*, 1995; Mendelsohn and el Obeid, 2004).

All the managers of the 63 tourist accommodation facilities interviewed in the Okavango Delta stated that they either offered tourists fishing opportunities from their own facilities in the Delta/Panhandle, or would alternatively organise to take tourists further up into the Delta to fishing sites/areas, if fishing trips/opportunities from the accommodation facility itself was not possible (such as in tourist accommodation facilities in Maun) if such a request was made. Forty two percent of the 63 facilities managers that responded to the questionnaire stated that they had their own boats that tourists could hire, with a guide/driver, for fishing (and scenic rides through the Delta). All of the facilities in the Panhandle region, and most of the facilities in the upper Delta have their own boats which are available for use by tourists. Tourists are also able to fish off the banks or boat jetties of many of the tourist facilities in the Panhandle and upper Delta. The remaining 58 percent of the

facilities that do not have boats, stated that they were able to organise fishing trips for tourists if requested, through agreements with other tourist facilities and operators, or through hiring locals to take tourists out in their boats for the day.

According to the 224 tourists interviewed in the Okavango Delta between 2003 and 2004, 139 individuals, or 62 percent, stated that they already had, or intended to, fish while they were in the Okavango area. The remaining 85 tourists, or 38 percent, stated that they had not/did not intend to participate in any fishing activities in the Delta region. This demonstrates the extent of the demand for fishing opportunities by tourists in the Okavango Delta and Panhandle area. Most of the tourists who stated that they intended to/had fished were interviewed in the Panhandle and Upper to Central Delta areas. Fewer tourists stated that they were interested in fishing in Maun, and the Moremi Game Reserve. Of the 139 individuals that stated they had, or were going to fish in the Okavango, most of these tourists intended to, or had, fished from boats belonging to the tour operators/tourist accommodation facilities, out in the larger channels of the Okavango. Only approximately five percent of the tourists stated that they had only fished from the river banks of the accommodation facilities in which they were staying.

Of the 63 managers of tourist accommodation facilities interviewed, 50 (79 percent) stated that they had restaurants or provided meals to tourists. In most of the remaining 21 percent of facilities, it was the responsibility of the tour operators to provide meals for the tourists, or in the case of independent travelers, the tourists themselves. Locally caught bream was available at 44 (88 percent) of the 50 facilities that provided meals/had restaurants. All the managers of these facilities stated that they bought the fish from local fishermen in the vicinity.

Recreational fishing in the Delta is arguably the most sustainable and ecologically sound use of the area's fish stocks. Firstly, recreational fishing is generally done using a line and hook, and hence only one fish is caught at a time, unlike with the use of fishing nets, traps, etc. Secondly, only adult fish are caught with a line and hook, and many tourists/recreational fishermen release their catches back into the Delta. Lastly, recreational fishing in the Delta brings significant amounts of revenue into the region.

According to a personal interview conducted with Cato Mosephele, fisheries biologist at the Harry Oppenheimer Okavango Research Centre in Maun, on the state of fish resources in the Okavango River/Delta, fish are perhaps the least affected resource by tourism development in the area. The number of fish that recreational fishermen catch each year is not large enough to cause any significant damage to this resource. The greatest threats to fish in the Okavango lie in fact, in the secondary impacts of a number of factors. These include:

- Pollution of the Okavango Waters by human development and agricultural production;
- Oil spillages from motor boats;
- Wave action caused by motor boats disturbing fish nesting sites;
- Decreases in the size of the Okavango Delta, and subsequent shrinkage in flood-plain breeding sites for fish; and
- Future commercial agricultural, damming and hydro-electric schemes which may constrict the flow of the Okavango's waters.

With regards to local perceptions on recreation fishing and tourism in the Delta, there are increasing complaints by local fishermen that tourist boats travelling throughout the Okavango Panhandle and Delta, disrupts local fishing activities by scaring away fish and causing waves, which makes fishing from traditional mekoros difficult.

7.2.5.3 Fisheries Management

As a significant proportion of Ngamiland's population rely on fish for subsistence and food, the sustainable management of the area's fish resources is of particular importance in ensuring the ability of local subsistence fishermen to continually access meaningful amounts of fish. To sustain this key role that the fisheries play in the local economies, the following management challenges need immediate consideration:

- Since the Fish Protection Act (1975) was enacted, no regulatory measures have been put in place as provided for in the Act, although commercial off-take has increased dramatically, particularly in the Okavango River system;

- Presently, access to fish resources is open to all persons regardless of nationality, with no comprehensive monitoring of fish stocks and off-take amounts;

- The open access nature of fisheries has led to varying levels of conflict between subsistence, commercial and sport users;

- There is little or no management consideration given to wildlife species that depend on fish (such as otters and many bird species); and

- The possible development of commercial fish farming needs scrutiny as the introduction of aquaculture species into any river system has the potential to harm wild fish stocks (Republic of Botswana CBNRM Policy, 2000).

7.2.6 Plant Resources in the Okavango Delta

There are between only 2600 and 2800 species of flora in Botswana, which makes the country floristically poor. The level of floral endemism is placed at 17, and hence Botswana is reported to have the lowest level of floral endemism in the southern African sub-region. This is well illustrated by the fact that it has a meagre eight indigenous species of aloes even though it is situated in the African sub-continent where more aloes are found than anywhere else in the world (Republic of Botswana Environmental Statistics, 2000).

The Okavango Delta and Chobe River regions are the richest flora areas in the country. As Table 7.8 shows, the Okavango Delta alone supports at least 55 species of trees, 41 species of shrubs and woody plants, 105 species of aquatic herbs and ferns, and over 50 species of grasses and sedges (Republic of Botswana Environmental Statistics, 2000).

Table 7.8: Diversity of Vegetation in the Okavango Delta

Vegetation Type	Number of Species
Trees	
Semiaquatic	18
Floodplain Edges and Mainland	10
Miscellaneous Sites	10
Rare Species	12
Upper Panhandle Only	5
Total Tree Species	**55**
Shrubs and Woody Plants	**41**
Aquatic Herbs and Ferns	
Free Floating	4
Floating Submerged	11
Rooted Submerged	15
Rooted Floating	18
Rooted Emergent	57
Total Aquatic Herbs and Ferns	**105**
Grasses	
Perennial and Seasonal Swamps	17
Seasonal Swamps and Floodplains	34
Islands and Pans	41
Total Grasses	**92**
Hedges	
Perennial and Seasonal Swamps	19
Seasonal Swamps and Floodplains	36
Islands and Pans	8
Total Hedges	**63**
Creepers and Lianes	**10**
Herbs	**128**

Source: Republic of Botswana Environment Statistics, 2000.

7.2.6.1 The Use of Plants in the Okavango Delta

Plant life in the Okavango Delta and the Okavango River Basin provides its inhabitants with numerous, different benefits. Most uses are for domestic purposes and the immediate benefit for households, but plant products are also sold to earn cash incomes, and many goods are exported from the region. Of the many

different products, wood is perhaps the most important as most homes are built largely of timber harvested from local trees, and the great majority of households use wood as fuel, which is collected from dead trees. The sale of firewood alongside roads in the Ngamiland District, particularly to camping tourists has increased greatly over the past five years. Sleds and dug-out boats (mekoros) are also made from pieces of wood or tree trunks (although mekoros are increasingly being made from fibre-glass in the Delta), and other major uses of wood in the region are for fences, furniture and craft production (Mendelsohn and el Obeid, 2004).

A large variety of trees and shrubs produce nuts and fruits that are consumed by the inhabitants of the Okavango. In fact, a recent survey found that nuts and fruits from between 35 and 50 different species were eaten in any one area in and around the Okavango Delta and Panhandle region. Most of these are taken only occasionally, but others provide relatively large quantities of food. Mangetti (*Schinziophyton rautanenii*) nuts are used on a large scale to brew an alcoholic drink called kashipembe, and as a source of oil used cosmetically. The potential for producing distilled and bottled liqueur and oil for the international cosmetics industry is now being explored. The leaves of different wild spinach plants are consumed, as are water lilies and various wild mushrooms. Many plants are also used for medicinal purposes, with the healing properties of between 20 and 40 different species used in any one area (Mendelsohn and el Obeid, 2004).

Grass is used largely for grazing in the Ngamiland District, and some of the most heavily stocked areas are badly overgrazed. Both grass and reeds are used in the construction of huts, with most rural houses being thatched with grass and/or reeds, while reeds are used extensively to make sleeping mats, walls, palisades and fences. Both grass and reeds are also used for commercial purposes with grass selling for approximately one to seven Pula per bundle, while reeds sell for around five to ten Pula per bundle. Papyrus reed (*Cyperus papyrus*) is used extensively for basketry, which is a popular vocation in the Panhandle area. These baskets are tourist attractions and with assistance from Botswana Craft, these baskets are sold both locally and overseas (Makhajwe *et al*, 1995; Mendelsohn and el Obeid, 2004).

Table 7.9 provides a list of some of the more commonly used plant resources in the Okavango Delta.

Table 7.9: Commonly Used Plant Resources in the Okavango Delta

Name of Plant		Common Uses in the Okavango Delta
Common Name	**Scientific Name**	
Real Fan Palm	*Hyphaene petersiana*	Leaves used for basket weaving, seed used for making ornaments, buttons, sap used for making palm wine
Wild Date Palm	*Phoenix reclinata*	Leaves used for weaving mats, inflorescence (flower-bearing stalks) are used as brooms, fruit and heart of the crown eaten, sap used for making palm wine
Jackal Berry	*Diospyros mespiliformis*	Tree trunks used extensively for making mekoro's, friut eaten
Wild Sage	*Pechuel-loeschea leubnitziae*	Stems used to make traditional fishing funnels (baskets)
Silver Terminalia	*Terminalia sericea*	Young branches used to make mekoro poles
Leadwood	*Combretum imberbe*	Leadwood is the most sought after fire-wood in the Delta, roots used to make dye, fruit used to make jewellery
Magic Gwarri	*Euclea divinorum*	Root-bark used to make dye, which is used extensively in basket making industry
Birdplum	*Berchemia discolor*	Powdered bark used to make dye, which is also used extensively in basket making industry, fruit eaten
Mopane	*Colophospermum mopane*	Wood highly sought after as building material, trees support the life cycle of the mopane worm, which is an important food source in Delta
Sausage Tree	*Kigelia africana*	Tree trunks used extensively for making mekoro's
Kiaat	*Pterocarpus angolensis*	Tree trunks used extensively for making mekoro's
Marula	*Sclerocarya birrea*	Tree trunks used for making mekoro's, wood used for making grain-stamping pestles, fruit used to make beer and eaten raw, seeds eaten
Devil's Claw	*Harpagophytum procumbens*	Extremely important medicinal plant throughout Botswana, and exported overseas

Source: Adapted from Roodt, 1998.

7.2.6.2 Botswanacraft

Botswanacraft Marketing Company is a parastatal company, established in June 1970, devoted to the development and marketing of Botswana handicrafts. Botswanacraft buys traditional and contemporary crafts throughout Botswana and

sells them in retail shops both locally and internationally. The establishment of a Botswanacraft shop in the village of Etsha 6 in mid-1980s, as well as the influx of Hambukushu refugees from Angola to the village of Etsha 6, was to have a major impact on the production of traditional crafts, particularly baskets, and the use of plant resources in the Okavango Delta area. Today, Botswanacraft oversees a wide range of activities from the production of handicrafts in isolated rural areas, such as in the Okavango Delta, to the marketing of these same crafts in various countries oversees (Terry, 1984).

There are two major centres of craft production in the Okavango River Basin. One is in the Kavango area in Namibia, which focuses on wood-carvings, while the other is in the Okavango Delta, where there is the large and internationally renowned basket industry, created to a large extent, by Botswanacraft, and maintained by the growing tourism industry in the Delta. There are approximately 1500 basket weavers in the Okavango Delta today, most of whom are women, mainly of Hambukushu and Wayeyi descent, who collectively earn about US $ 120 000 per year from the sale of their crafts. The main centres of basket production are in the Etsha area and Gumare. Baskets completely dominate craft production in the Ngamiland District, however, wooden carvings and traditional San crafts are also produced, but to a lesser degree (Makhajwe *et al*, 1995; Mendelsohn and el Obeid, 2004).

As Botswanacraft's market for baskets and other crafts expanded from the 1970s onwards, more and more baskets were being produced by the women of Etsha. With the arrival of tourism in the Delta from the late 1980s the demand for baskets and traditional crafts by tourists, exploded. This led to the over-utilisation of the resources used in making baskets, through non-selective harvesting in the area surrounding Etsha. According to the 224 tourists interviewed in the Okavango Delta between 2003 and 2004, 173 individuals, or 77 percent, stated that they already had, or intended to, purchase a basket or other piece of craftwork while they were in the area. This demonstrates the extent of the demand for local crafts by tourists in the Okavango Delta area. Most of the remaining 51 tourists, or 23 percent, stated that they would buy local crafts if they came across one they particularly liked, but did not come to the Delta with the intention of buying local crafts.

Today, *Hyphaene petersiana* palms as well as *Berchemia discolor* and *Euclea divinorun* trees/shrubs, amongst others used in the production of crafts, are no longer present in the Etsha area at all. As such, the women of Etsha now have to walk for up to five or six hours to reach areas where these plants still grow. Much of the terrain that the women have to walk through is muddy or covered in shallow water, and they face daily threats from crocodile, hippopotamus, snakes and other wildlife.

Various projects are being implemented by Botswanacraft in Etsha, to counteract the negative impacts of over-utilisation. Education sessions are held during basket upgrading courses to explain and demonstrate proper harvesting techniques, and basketmakers are being encouraged to plant new palm tress, both in the area surrounding Etsha, as well as in their own compounds and agricultural lands. According to a recent survey conducted by Botswanacraft in 2002 in the village of Etsha 6, 82 percent of the basketmakers stated that they felt that projects focusing on the repropogation of the plants used in basketmaking was a good idea. Of these women, 57 percent stated that they would prefer to grow their own trees/plants, while 29 percent wanted to develop small group plots. Eight percent stated that Botswanacraft should develop large commercial plantations in the Etsha area as they were ultimately responsible for the over-harvesting of the craft-production plants in the Etsha area (Terry, 1984; Mendelsohn and el Obeid, 2004).

7.2.6.3 The Impact of the Tourism Industry on the Okavango Delta's Plant Resources

According to a personal interview conducted with Dr. Hargraves, head of the National Herberium in Gaborones, on changes to the Okavango Delta's vegetation over the past 25 or so years (since the development of the tourism industry), there is a serious lack of data on the vegetation in this area. To date, almost no monitoring has been carried out on changes to vegetation, or the loss of plant biodiversity in the Okavango. As such, it is difficult to make any definite conclusions on the impact of tourism and its associated development on the Okavango's plant communities. However, according to Hargraves, general observations in the area have shown that there has been a negative impact on vegetation in the Okavango Delta.

Firstly, the Okavango Delta is experiencing a loss in plant biodiversity. This is illustrated by the fact that a number of rare species of plant, for example the *Catophractes alexandri*, or Trumpet thorn shrub, to name just one, which were present in the Delta up until the late 1980s, have all but disappeared. Secondly, since the 1980s and the growth of tourism in the Delta, there has been an alarming increase in the number of alien species of vegetation that have established themselves in the area. These include burr grass (*Setaria* verticillata) and a number of species of aquatic weeds, including the dreaded Kariba weed (*Salvinia molesta*) which is spread primarily by boats.

7.2.7 Changing Lifestyles and Natural Resource Utilisation in the Okavango Delta

Rural livelihoods have changed greatly over the past 100 years, and the changes continue in more rapid, complex and varied ways than one often recognises. Most changes were introduced by colonial influences that brought new values and aspirations associated with religion and education, longer lives as a result of health care, and cash incomes from migrant labour and government jobs. Just 75 years ago, few people in the Okavango had any schooling and most had never benefited from modern medicine. Not many people had seen or heard of sources of energy such as electricity, gas or paraffin, and there were very few cars or roads, and no public telephones. There was little experience in having cash incomes or in buying food, and most people were wholly and directly dependent on resources offered by the natural environment (Mendelsohn and el Obeid, 2004).

In Botswana developments that improved the lives of people continued after independence. Some of the most significant changes were those making urban jobs and businesses much more lucrative than rural farms. Enormous attractions and pressures encourage people to abandon lives as rural farmers, and many people have responded by moving to Maun and other urban centres outside of the Okavango region. Livelihoods have also changed because of a loss of natural resources, mainly as a result of reduced material incomes from hunting, fishing and the gathering of resources from wild plants, such as fruit. A hundred years ago there was abundant wildlife, and reminders of successful hunts in the past are embodied in traditional poems and songs that pay tribute to hunting forays in the Delta. Fish

populations in the rivers have dropped and crop yields have declined, especially around some of the larger towns. The repeated use of fields, with little use of fertilizers, manure or compost to replenish soil nutrients, has meant that soil fertility has decreased. The growing number of people has also limited the area in which new fields can be cleared, and overstocking has led to the loss of pastures (Mendelsohn and el Obeid, 2004).

7.2.7.1 Household Welfare and New Incomes

Most rural households look rather similar, and this is one reason why it is often assumed that the majority of rural people live and subsist in similar ways. However, rural households vary greatly in terms of overall wealth. Each household also depends on a different mix of incomes from agricultural holdings (livestock and fields), natural resources (grazing, water, fertile soils and fish) and cash sources (wages, business earnings, remittances and pensions) (Mendelsohn and el Obeid, 2004).

Most rural households therefore have several different incomes, and even individuals often have several incomes as well. Farming activities generally generate less than one fifth of all rural income in the Okavango region, and different kinds of employment, by contrast, provide almost two-thirds of an average household's income. In fact, the annual income of a home in which one or more people are formally employed is generally seven times greater than that of a household in which no one is working elsewhere. Having cash allows one to pay for transport, school fees and uniforms, medical care and food, and not only luxuries but also staples when crops fail. It is therefore not surprising that there are great pressures on people in the Delta to get a job or earn a business income. Much of this pressure is on young people who are urged to leave home in search of jobs in Maun, Francistown, Gaborone, or even outside of Botswana (Mendelsohn and el Obeid, 2004).

In essence, most people are not keen to be rural farmers, and yet most plans for development in the Okavango Basin as a whole concentrate on rural development. Some plans seek to provide social services and infrastructure, while others attempt to improve household economies. The latter largely concentrates on raising production on small farms to enhance food security and increase sales of farm

products (Mendelsohn and el Obeid, 2004). All these efforts are founded on the assumption that rural livelihoods can really be improved, which is flawed for the following reasons:

- Promoting rural, subsistence livelihoods simply runs against the aspirations of most people;

- Rural life in most areas is hard and insecure because of poor soils, low and unreliable rainfall, and the prevalence of disease. Services are also hard to come by;

- Making an adequate living in this environment requires much more than the few hectares most people own;

- There are few markets where farmers can sell their products to make a reasonable income; and

- Finally, capital is required for effective, lucrative farming activities to develop. Small-scale farmers seldom have access to savings and their insecure tenure and meagre assets make it difficult to get loans (Mendelsohn and el Obeid, 2004).

These are the reasons that make rural development difficult, especially for subsistence farmers who face high risks and low rewards, and have better options elsewhere. For the time being, however, many rural people have little immediate hope of moving up the economic ladder, remaining stuck on the bottom rung where they eke out a living from farming, fishing and gathering. In comparing these rural poor with people who have entered the modern economy of the Delta, mostly as wage earners working as civil servants or businesspersons, it is these individuals that are the 'mover and shakers' of the Okavango region, setting the pace by taking command of much of the economy and land, and it is this 'elite' group who will determine much of the Delta's future (Mendelsohn and el Obeid, 2004).

The importance of people remaining as subsistence farmers in the rural economy of the Okavango Delta should not be underestimated though. Efforts to support them will, however, be more effective if they are appropriately cast in terms of poverty alleviation rather than as rural development. As such, effective development should concentrate and capitalize on those aspects of the rural economy appropriate to the region, such as its pristine environment, water resources, tourism industry and economic use of wildlife (Mendelsohn and el Obeid, 2004).

In an attempt to help address the high levels of poverty in the Okavango Delta's rural areas, and provide the local population with the opportunity of utilising natural resources to improve their livelihoods, as well as to address the lack of local involvement in natural resource management, the Community Based Natural Resource Management (CBNRM) programme was implemented in the Okavango Delta. This gives local communities the chance to actively participate in the utilisation and management of the areas' natural resources, and provides the opportunity for local people to receive economic benefits from the conservation of wildlife and other resources.

The following section introduces the concept of Community Based Natural Resource Management (CBNRM) in the Okavango Delta, and discusses in detail the issues associated with the implementation of this programme and its role in natural resource management.

7.3 Community-Based Natural Resource Management (CBNRM) in the Okavango Delta

From the 1980s, community development and natural resource management have become intertwined. Twyman (2000) notes that participatory and community based approaches were heralded as the panacea to natural resource management initiatives world-wide. In Eastern and Southern Africa, Community Based Natural Resource Management (CBNRM) has been adopted as an approach that aims to achieve rural economic development and natural resource management. After almost ten years since its implementation in Botswana, and the Okavango Delta in

particular, its levels of success and sustainability are still not adequately known (Mbaiwa, 2004).

7.3.1 Background to Community Based Natural Resource Management

The driving force behind the introduction of Community-Based Natural Resource Management (CBNRM) in East and Southern Africa from the 1980s was a result of factors such as: the threat of species extinction due to the over-utilisation of resources, especially wildlife through poaching; the inability of the state to protect its declining wildlife resources; land use conflicts between rural communities living in resource areas and resource managers, especially wildlife managers; and the need to link conservation and development (Steiner and Rihoy, 1995). These factors led to the adoption of CBNRM as an alternative strategy of natural resource management. According to Mbanefo and de Boerr (1993), local involvement in natural resource use and management has been successfully implemented in Zimbabwe since 1986 through the Communal Area Management Programme for Indigenous Resources (CAMPFIRE). According to Ashley (1995), local involvement in natural resource management was implemented through the Living in a Finite Environment (LIFE) programme in Namibia. In Mozambique, it has been accomplished successfully through Tchuma Tchato 'Our Wealth', and in Kenya through the Conservation of Biodiversity Resource Areas Programme (COBRA), and in Tanzania through the Ujirani Mwena 'Good Neighbourliness' (Cruz, 1995; Masika, 1995). In Botswana, the involvement of communities in resource management is carried out through the Community-Based Natural Resource Management (CBNRM) programme (Mbaiwa, 2004).

The CBNRM approach combines rural development and natural resource conservation (Rozemeijer and van der Jagt, 2000). It is a reform of the conventional 'protectionist conservation philosophy' and 'top down' approaches to development, and it is based on common property theory which discourages open access resource management, and promotes resource use rights of the local communities (Rihoy, 1995). As an attempt to find alternative solutions to the failure of top-down approaches to development and conservation, CBNRM is based on the recognition that local people must have the power to decide over their natural resources in order to encourage sustainable development (Rozemeijer and van der Jagt, 2000).

CBNRM aims at alleviating poverty and advancing conservation through the strengthening of rural economies and empowering local communities to manage resources for their long-term social, economic and ecological benefits (Rozemeijer and van der Jagt, 2000).

The adoption of CBNRM programmes is based on the assumption that local populations have a greater interest in the sustainable use of natural resources around them, more than centralised or distant government or private management institutions (Tsing *et al*, 1999; Twyman, 2000). CBNRM credits the local inhabitants with having a greater understanding of, as well as vested interest in, their local environment. Hence, they may be seen as being more able to effectively manage natural resources through local or traditional practices (Leach *et al*, 1999; Tsing *et al*, 1999; Twyman, 2000). CBNRM assumes that once rural communities participate in natural resource utilisation and derive economic benefits, this will encourage the spirit of ownership and will ultimately lead to the sustainable use of the natural resources located in their area (Mbaiwa, 2004).

Even though CBNRM is generally accepted as an alternative model of fostering the sustainable use of natural resources through community development, critics of the model note the following weaknesses with it: the lack of a clear criteria by which to judge whether CBNRM projects are sustainable and successful in meeting conservation and development targets (Western *et al*, 1994; Boggs, 2002); marginalisation of minority groups (Taylor, 2000, 2001); inaccurate assumptions about communities and poorly conceived focus on community level organisation (Agrawal and Gibson, 1999); and inappropriate management strategies (Fortman *et al*, 2001). Critics also note that there is a tendency by 'policy receivers' (local communities) who are the intended beneficiaries to be treated passively by the 'policy initiators' (Twyman, 1998, 2000); and that CBNRM projects rely heavily on expatriate expertise (Pimbert and Pretty, 1995; Twyman, 2000). Much of the literature on CBNRM is unrealistically optimistic and the high expectations have not been met. Consequently, Southern African communities are not benefiting as much as they should from CBNRM. The devolution of rights to communities is noted by Lawry (1994) as being insufficient without equal attention to how rights are distributed. The issue of the devolution of rights is related to the lack of understanding of institutional arrangements impeding CBNRM (Leach *et al*, 1999).

Arguments for and against CBNRM indicate that much is still not known about the success and sustainability of the CBNRM programme in East and Southern Africa (Mbaiwa, 2004).

7.3.2 Socio-Political Benefits of CBNRM

Access to, and control over, natural resources by local communities involved in CBNRM projects has become the catchphrase in community-based natural resource management. In the Okavango Delta access to, and control over, resources by rural communities is carried out through the decentralization of land and its resources to rural communities. This has so far been achieved through the adoption and implementation of several government policies and strategies, such as the Wildlife Conservation Policy of 1986, Tourism Policy of 1990, National Conservation Policy of 1990, Tourism Act of 1992 and the Wildlife Conservation and National Parks Act of 1992, which laid the foundation for CBNRM in Botswana (Rozemeijer and van der Jagt, 2000). According to Rozemeijer and van der Jagt (2000), each of these documents calls for the increased opportunities for local communities to benefit from wildlife and natural resources through tourism development. These government documents should therefore be seen as having played an important role in facilitating the decentralization of land and its resources to rural communities for tourism purposes (Mbaiwa, 2004).

The Wildlife Conservation Policy of 1986, in particular, is generally regarded as the blueprint upon which CBNRM has been designed. It proposed the division of all the nine districts in Botswana into Wildlife Management Areas (WMAs). The concept of WMAs in Botswana arose from a need for conservation and the controlled utilisation of wildlife and other natural resources outside of national parks and game reserves, along with the desirability of creating buffer zones between parks and reserves and areas of more intensive land use. WMAs are therefore zones between protected areas and surrounding areas, especially human settlements. The primary land use option in WMAs is wildlife utilisation and management. In most WMAs, the Botswana Government has granted local communities the right to use the wildlife resources subject to government regulations such as the requirement to form a trust, to prepare and adhere to a management plan for the area, and the need to apply for a hunting quota. Other types of land use are permitted, provided they do not threaten

the wildlife populations and their utilisation (Thakadu, 1997; DWNP, 1999; Mbaiwa, 1999; Mbaiwa, 2004). Winer (1995) states that CBNRM projects in WMAs seek, as a principal aim, to return custodianship of natural resources to the local communities in order for conservation to be linked to rural production systems that generate wealth, rather than conservation being viewed as being in conflict with such rural production systems, as has often been the case.

WMAs are further sub-divided into Controlled Hunting Areas (CHAs). CHAs form smaller management units within WMAs, which become the 'unit of production' (Rozemeijer and van der Jagt, 2000; Mbaiwa, 2002). Therefore, CHAs are administrative blocks used by the Department of Wildlife and National Parks to allocate wildlife quotas, and Botswana is divided into 163 CHAs, which are zoned for various types of wildlife utilisation (both consumptive and non-consumptive uses), under commercial or community management. In communal areas, CHAs are zoned around existing settlements and those under community management are designed to benefit the local people (Rozemeijer and van der Jagt, 2000; Mbaiwa, 2002; Mbaiwa, 2004).

Wildlife Management Areas (WMAs) in the Okavango region are sub-divided into 49 CHAs. By 2001, a total of 12 CHAs were allocated to different communities in the Okavango for tourism purposes, and 15 CHAs were leased to safari companies by the Tawana Land Board for both hunting and photographic purposes. The rest of the CHAs are used for multipurpose activities and are under the control of the Tawana Land Board (Mbaiwa, 2004).

Even though wildlife and related tourism policies in Botswana give part of the responsibility for managing and administering wildlife resources to local communities, they fail to define the objective of government in relation to CBNRM, nor do they provide firm guidance for its implementation (Rozemeijer and van der Jagt, 2000). Mbaiwa (2002; 2004) also notes that although local people are given partial rights to manage land and wildlife resources in the Okavango Delta, much of it remains centralised as land is only leased to them for a 15 year period and wildlife resources remain wholly the property of the government, except for the quota allocated to the community. Cassidy (2001) states that there is very little natural resource monitoring being undertaken, and few management decisions made, by

rural communities. Final decisions over key resources remain the responsibility of government, for example, as the hunting quotas are determined by the Department of Wildlife and National Parks without the involvement of the rural communities. Despite these limitations, it is important to note that government policies and the zoning of the country into WMAs and CHAs for CBNRM purposes indicate the project has had some success. Rozemeijer and van der Jagt (2000) note that key achievements made by CBNRM include the fact that the DWNP has laid down comprehensive legislation and implementation guidelines in support of CBNRM in the country, and that a nationwide land use zoning exercise has realigned the boundaries of wildlife (hunting) and other natural resource areas to conform to major land use zones and create economically and ecologically viable land units (Mbaiwa, 2004).

WMAs, however, also bring along development constraints. For example, agriculture is subject to restrictions within WMAs, as no livestock boreholes are permitted outside the community zones of the WMAs, and regulations for each WMA contains maximum livestock numbers. As such, WMAs have a profound impact on the livelihood opportunities of the local population, and as many of the WMAs in Botswana, as a result of range-degradation and the over utilisation of resources, are resource-poor areas, one wonders to what extent WMAs are able to improve local livelihoods (Artzen, 2003).

This question needs to be considered within the long-term development perspective as articulated within Vision 2016. Vision 2016 was launched in 1996 and it formulated ambitious and challenging development targets for the country. These include the eradication of absolute poverty by the Year 2016. This means that all Batswana should be able to meet their basic needs and live above the poverty datum line. To achieve this objective, the per capita income needs to triple, requiring an annual economic growth rate of eight percent in real terms (i.e. excluding inflation). Given the widespread poverty in WMAs, incomes in these areas need to increase much faster, probably by around 15 to 20 percent per annum. To achieve this, a rapid and sustained increase in wildlife benefits is essential. WMAs have to demonstrate the economic value of natural resources, particularly wildlife, and their income generating capacity for the local population. This poses an enormous development challenge to WMAs because consumptive use of wildlife is generally

no longer an important livelihood source in most rural areas. In Botswana, the economic aspects of CBNRM have received considerably less attention than the environmental and social aspects (Artzen, 2003).

7.3.3 Guiding Principles and Ideals Underlying Botswana's CBNRM Policy

The implementation of CBNRM in Botswana was effectively started in 1989, with the establishment of the USAID funded implementing agency, the Natural Resource Management Project. The first project initiated at community level was the Chobe Enclave Community Trust in 1993 in the Chobe region. The second CBNRM project, and the first in the Okavango, was the Sankuyo Tshwaragano Management Trust established in 1995, which was the first community-based tourism venture developed in Ngamiland District (Jones, 1999; Hoon, 2003; Sorensen, 2003).

Since then, many more CBNRM projects have been established. By 2001, there were 46 community-based organisations registered in eight districts covering 130 villages and a population of around 40 000, of which 12 or 27 percent are in the Okavango. Most of these projects involve wildlife and eco-tourism based activities (CBNRM Status Report, 2001). This rapid growth demonstrates the growing interest of communities as well as the economic potential of the CBNRM approach, particularly in areas with a high wildlife density (Artzen, 2003).

However, as returns from CBNRM are positively related to wildlife densities and negatively associated with population density, doubts exist about the viability of CBNRM projects in low wildlife density areas and in areas such as the Okavango Delta where wildlife numbers are decreasing outside of protected areas. In fact, despite the increase of CBNRM projects in Botswana, the success and sustainability of the programmes remains under debate, not only in Botswana but in most parts of Eastern and Southern Africa (Rozemeijer and van der Jagt, 2000).

Botswana's CBNRM policy is based on ideals of equality, natural resource conservation, and social development. The policy is designed to:

- Provide for broad stakeholder co-ordination at District and National level;

- Give communities incentives to engage in sustained development and conservation activities;

- Establish clear links between the reception of benefits and the existence of natural resources;

- Ensure that a fair share of benefits is realised at the local level and benefits acquired from resources from a locality are distributed as widely as feasible within the locality;

- Recognise the value of all species as contributors to a naturally functioning ecological unit;

- Encourage the investment of community benefits gained from natural resources into activities that will not adversely affect those resources or otherwise hinder the viability of ecological systems;

- Enhance community autonomy through programmes directed towards community self-reliance, with democratic and transparent participatory mechanisms; and

- Ensure respect for the needs of all members of society (Republic of Botswana CBNRM Policy, 2000).

The overall objective of Botswana's CBNRM Policy is to validate CBNRM as a foundation for conservation based development. The specific CBNRM policy objectives are to:

- Enhance the conservation of Botswana's natural resources;

- Enhance economic and social development in rural areas by providing qualified communities opportunities to earn benefits from natural resource conservation;

- Clarify natural resource rights that may be delegated to communities, including rights of management, use, access, and exclusion and the steps required for communities to gain such rights;

- Establish a regulatory structure that encourages investment in communities, conserves natural resources and links conservation with rural development;

- Initiate conservation strategies that are based on an ecosystem perspective, and include natural resource monitoring and management programmes to ensure species and ecosystem health;

- Facilitate government financial and institutional support, including support for conservation, business planning, marketing and extension services;

- Provide opportunities for community participation and capacity building regarding natural resource management; and

- Respect the integrity, importance, and distinctions of cultural traditions by allowing communities to identify and define their own development goals and priorities (Republic of Botswana CBNRM Policy, 2000).

7.3.4 Community Perceptions Towards Community Based Natural Resource Management

According to Mbaiwa (2002), the population of Ngamiland District generally regard the implementation of the CBNRM programme, through the creation of community-based tourism ventures, as a good idea. Community-based organisation members, as well as households in the villages of Khwai, Seronga and Disthiping (see Figure 5.4 in chapter five), all of which have developed community-based tourism ventures, generally regard community-based tourism as a positive development which should be encouraged. According to Mbaiwa (2002), 76.9 percent of the population in Khwai, Seronga and Disthiping believe that community-based tourism is a good idea as it has resulted in the creation of employment opportunities and has generated much revenue for the people in the district. The 23.1 percent of the villagers who do

not regard community-based tourism as a good idea, stated that they had received no direct benefits from the CBNRM programme. Their view was that community-based tourism is only of benefit to members of community-based organisations and expatriate safari companies operating in the area (Mbaiwa, 2002).

7.3.5 The Local Natural Resource Institutional Framework in the Okavango Delta

Access to, and management of, natural resources and participation in tourism by rural communities is carried out through local institutions known as Community-Based Organisations (CBOs) or trusts. Community-Based Organisations or trusts are a prerequisite for communities to be allocated a Controlled Hunting Area and a wildlife quota by the DWNP (Mbaiwa, 2002; Mbaiwa, 2004). Community trusts or organisations, as local institutions, provide leadership in the use of land and resources such as wildlife for tourism purposes by participating communities. As such, CBOs are registered trusts that provide a locally controlled institutional framework in tourism development in the Okavango Delta. CBOs co-ordinate tourism activities for their respective communities. The operations of CBOs are guided by a constitution which addresses issues of membership, organisation and duties for each CBO (Mbaiwa, 2002).

In order for a community to establish a legal Community Based Organisation, the election of a village representative group and registration with the Botswana Government is required. Once the community has formed a legally recognisable Trust and developed a Land Use Plan, it can apply for a lease over the relevant piece of land, usually a Controlled Hunting Area (CHA), within a Wildlife Management Area (WMA), with the Tribal Land Board. Each CHA contains a wildlife off-take quota designated by the Department of Wildlife and National Parks. However, some CHAs within protected areas have a hunting quota of zero, while other CHAs are designated for community use only. The Community Based Organisation can then choose to sub-lease the use-rights of their land and hunting quota to a private tourism company for photographic or hunting safaris, and this has the potential to bring in substantial income to rural areas (Boggs, 2000; Sorensen, 2003).

Leases are given for 15 year periods, and if the Community Based Organisation chooses to sub-lease to a private safari operator, the area is put up for tender and interested parties submit a proposal to a technical committee, consisting of representatives from various governmental bodies. The technical committee selects the three most suitable proposals and the community can then make selections. Joint venture agreements are then often established to allow for training and capacity building with the understanding that the full management of the area will revert to the community after 15 years. Leases are arranged on the basis of 1 – 1 – 3 – 5 – 5 years, and after the end of each period, the community can decide whether to put out the area for the re-tender or renew the joint venture agreements. While this tender design was created to protect the communities from mismanagement, corruption and maltreatment, it has unfortunately also served to encourage extortion and bribery (Boggs, 2000; Sorensen, 2003).

The process required for communities to gain rights over their resources is complex, particularly since the areas they inhabit are generally very rural, and the communities are poor and under-educated. They therefore need assistance in understanding their CBNRM rights and responsibilities, establishing committees and navigating the application procedure. NGOs play an important role in facilitating this process, by providing technical advice on natural resource management, organisational development and fund-raising. Today, ten NGOs offer CBNRM related services to communities in Botswana, and help implement the CBNRM project (Rozemeijer, 2003; Sorensen, 2003).

The establishment of trusts should be considered to be one of the successes of the CBNRM programme in Botswana. The establishment of trusts among other issues indicates an organised institutional arrangement aimed at involving local people in resource management and tourism development in the Okavango Delta. This is in line with the ideals of sustainable development which stress that all people should be involved in any socio-economic and political development that affects their lives (Mbaiwa, 2004).

7.3.6 The Socio-Economic Benefits From CBNRM in the Okavango Delta

Most Community-Based Organisations in the Okavango Delta have, to varying degrees, generated economic benefits for local inhabitants, such as employment opportunities and cash generation. However, much of the revenue that Community-Based Organisations in this region have so far been able to generate has mostly come from land rentals or through the sub-leasing of their Controlled Hunting Areas to safari operators and through the sale of their wildlife quotas. The employment opportunities that have been generated for local inhabitants are generally provided by the safari operators that lease the community land (CHAs) where the majority of jobs are as labourers. In fact, most of the participating communities in community-based tourism are not directly involved in the tourism business, nor do individuals receive any tangible benefits from the tourism industry. They can therefore be described as passive participants in tourism development in the Okavango Delta. (Mbaiwa, 2002). Table 7.10 shows some of the major, and more successful Community-Based Organisations operating in the Okavango Delta, as well as the type of tourism activities in which they are engaged, and the amount of revenue that each community project has managed to generate on an annual basis from the first year of operation.

Table 7.10: Community-Based Organisations in the Okavango Delta (2000)

Name of CBO/Trust	Village(s) Involved	Tourism Activity	Revenue Generated (in Pula)				Total Revenue	Annual Increase Rate (%)	Number of People Employed
			Year	Rental	Quota	Others			
Sankuyo Tshwaragano Management Trust	Sankuyo	Hunting and Photographic	1997	285 000			285 000	-	53
			1998	345 000			345 000	17	
			1999	140 000	202 850	120 000	462 000	25	
			2000	154 000	223 135	148 940	526 075	19	
			2001	169 400	245 450	180 610	595 460	12	
Okavango Community Trust	Seronga, Eretsha, Gunotsoga, Beetsha, Gudigwa	Hunting and Photographic	1997	264 000	204 050		468 050	-	130
			1998	290 400	335 250		625 650	25	
			1999	319 440	332 900		652 340	4	
			2000	350 240	336 000		686 240	5	
			2001	600 000	400 000	500 000	1 500 000	54	
Cgaegae Tlhabololo Trust	Xaixai	Hunting and Photographic	1998	40 750		30 000	70 750	-	23
			1999	70 000		35 000	105 000	33	
			2000	25 000	290 167	27 095	342 262	69	
			2001		265 000		265 000	-29	
Okavango Kopano Mokoro Community Trust	Ditshiping, Boro, Xaxaba, Daunara, Xharaxao, Xuxao	Hunting and Photographic	1999	110 000	320 000	250 000	680 000	-	100
			2000	200 000	700 000	200 000	1 100 000	38	
			2001	220 000	735 000	200 000	1 155 000	5	
Mababe Zokotsama Development Trust	Mababe	Hunting and Photographic	2000	60 000	550 000	65 000	675 000	-	53
			2001	69 000	632 000	63 250	764 250	12	
Khwai Development Trust	Khwai	Hunting and Photographic	2000	1 100 000			1 100 000	-	78
			2001	550 000			550 000	-50	

Source: Adapted From Mbaiwa, 2002; Mbaiwa, 2004.

7.3.6.1 The Sankuyo Tshwaragano Management Trust (STMT)

The village of Sankuyo was the first village in Ngamiland District to establish community-based tourism in 1996. The village of Sankuyo is located on the northeastern fringes on the Okavango Delta (see Figure 5.4 in chapter five). In 1996, Sankuyo established the Sankuyo Tshwaragano Management Trust (STMT) to co-ordinate community-based tourism activities in the village. The village and its trust were allocated the Controlled-Hunting Areas of NG 33 and NG 44 to be used for photographic and hunting purposes, respectively. STMT then sub-leased these two community areas to Game Safaris and Crocodile Camp Safaris. Since the trust

started operating, it generated Pula 2.2 million between 1997 and 2001 (Table 7.10) (Mbaiwa, 2002).

The direct household benefits in Sankuyo include the construction of 40 Enviro Loo toilets, and the distribution of Pula 200 to each household in 1997. Shared community benefits included the purchase of a Land Cruiser vehicle for community use and the construction of a community trust office and a community social centre. Out of a village population of approximately 400, around 55 people in Sankuyo were employed in the community trust in 1998. However, more employment opportunities and financial gains are expected once the construction of the proposed CBO's campsite and traditional village is completed. The traditional village, amongst other things, includes the construction of two safari camps, one in the hunting area and the other in the photographic tourism area. Once completed, the photographic camp is expected to provide services to tourists such as accommodation in traditional huts, traditional dishes, dance and music, while the camp in the hunting area is expected to provide accommodation and hunting activities only. The move by the people of Sankuyo to build their own facilities means that in the near future they will no longer sub-lease their concession areas to safari and hunting operators, but will attempt to run the tourism business for themselves. This, to some extent, demonstrates the move towards a culturally and locally controlled tourism industry, as is defined in the principles of sustainable tourism (Mbaiwa, 2002).

7.3.6.2 The Okavango Community Trust (OCT)

The Okavango Community Trust (OCT) comprises the five villages of Seronga, Eretsha, Gunotsoga, Beetsha and Gudigwa located within the Okavango Delta and Panhandle area (see Figure 5.4 in chapter five). The OCT was established in 1996 and was allocated the Controlled-Hunting Areas (CHAs) of NG 22 and NG 23. The OCT has sub-leased its CHAs to hunting and photographic safari operators, John Calitz and Machetti Bates Safaris. They obtained Pula 1.5 million (US $ 250 000) in 2001 from land rentals and the sale of their wildlife quotas to these safari operators. The OCT has therefore followed the DWNP model of implementing CBNRM projects, which includes the promotion of joint venture partnerships with safari operators. In terms of employment, in 2001 the OCT was employing approximately 130 people from the five villages (Mbaiwa, 2002; Mbaiwa, 2004).

7.3.6.3 The Okavango Poler's Trust (OPT)

In addition to being part of the OCT, the village of Seronga operates its own trust. Within the OCT, a group of 75 canoe poler's at Seronga village have formed a trust known as the Okavango Poler's Trust (OPT). The OPT was formed with the intention of establishing a viable eco-tourism operation in the Panhandle and Upper Okavango Delta. The OPT does not have a CHA leased to it by the government or Tawana Land Board. The Trust is involved in mekoro safaris in the Okavango River and Delta, and operates camping sites on islands in the Delta. Mekoro safaris are meant to offer tourists a trip by mekoro, the traditional method of transportation, in the Okavango River and Delta, as a way of viewing game and camping in the wilderness. At the campsites, traditional dishes, dance and music, depicting the Wayeyi culture are offered as entertainment to tourists. The OPT provides employment for 100 people, of which 75 are polers, while the remainder are boat drivers, cooks, waiters, office attendants, co-ordinators, and a business manager. In 2001, it had 3725 tourist clients and generated Pula 625 000 or US $ 104 167. Tourists are charged Pula 120 for a mekoro safari per day and an additional Pula 20 per person a day in the traditional campsites. In addition, the OPT is currently developing a safari lodge that is also expected to offer traditional Wayeyi experiences to tourists once completed (Mbaiwa, 2002; Mbaiwa, 2004).

7.3.6.4 The Khwai Development Trust (KDT)

The Khwai Development Trust (KDT) comprises the village of Khwai, located on the eastern fringes of the Okavango Delta (see Figure 5.4 in chapter five). It began operating in 2000 and was allocated the CHAs of NG 18 and NG 19. The KDT does not sub-lease its CHAs to safari companies, but sell their wildlife quotas through auction sales. In 2001, they received Pula 550 000 (US $ 91 667) for the auction of their wildlife, which was half of what they received in 2001 (Table 7.10). The Khwai Development Trust is presently the only Community-Based Organisation in Ngamiland that does not sub-lease its CHAs to safari operators. The KDT is also in the process of constructing two safari camps in its CHAs for photographic tourism ventures. By April 2001 approximately 78 people were employed, out of a total village population of 429. These individuals were employed to perform various jobs at the safari camps, such as builders, and road and tourist trail construction workers,

spot guides, waiters, night watchmen, cooks and housekeepers. In terms of monthly payments, builders were paid Pula 800 each, road construction workers were paid Pula 450 each, night watchmen got Pula 500 each and supervisors were paid Pula 750 each (Mbaiwa, 2002, Mbaiwa, 2004).

7.3.6.5 The Okavango Kopano Mokoro Community Trust (OKMCT) and Other Community-Based Organisations (CBOs) in the Okavango Delta

In 1998 the Okavango Kopano Mokoro Community Trust (OKMCT), which comprises the six villages of Ditshiping, Boro, Xaxaba, Daunara, Xharaxao, and Xuxao (see Figure 5.4 in chapter five), was established, and received the CHA of NG 32. In 2001 the OKMCT received Pula 1.1 million (US $ 183 333), as revenue generated from the sub-leasing of their CHA and sale of their wildlife quota to a safari company. Like the OCT, and most other CBOs in the Okavango, the OKMCT has also followed the DWNP model of implementing CBNRM projects, which includes the promotion of joint venture partnerships with safari operators. In 2001, the OKMCT provided employment for a total of approximately 100 people from the six different villages (Mbaiwa, 2004).

In terms of raw income, CBNRM as a whole has been relatively successful in the Okavango Delta region. In 2001, CBNRM projects generated an estimated total of Pula 4.8 million (US $ 800 000) through contracts and joint venture partnerships with safari operators, sale of hunting quotas, crafts and veld products, and small-scale tourism ventures. Additionally, a total of around 840 jobs for community members involved in CBNRM projects were created in 2001. CBNRM projects in the Okavango Delta, in particular, the OCT, OKMCT and the KDT, have also been able to spawn community-based tourism enterprises such as campgrounds, cultural tourism sites, guesthouses and craft outlets which generate revenue and create employment opportunities in rural villages (North West CBNRM Forum, 2001; Mbaiwa, 2004).

The considerable amount of revenue and employment opportunities that local communities receive from their involvement in CBNRM reflects that the initial intentions of the CBNRM programme are, to varying degrees, being achieved. These include the involvement of local communities in resource management, while

at the same time allowing them to derive direct socio-economic benefits from such resources. Income generation and employment opportunities for the rural people in CBNRM projects should be regarded as one of the success areas of the programme in the Okavango Delta. CBNRM in the Okavango has also had the effect of increasing the value of natural resources, particularly wildlife. For example, in 2001, local people knew that an elephant sells at Pula 42 000 (US $ 7000) to a safari operator. In fact, resource revenue/land rentals have increased to better reflect the value of natural resources in the Okavango Delta. CBNRM has also increased the value of cultural resources, especially in the production of traditional crafts such as baskets and wood carvings, and through traditional singing and dancing for tourists. These activities are perceived as building a sense of pride and self-worth for local communities, as well as preserving cultural identities (Mbaiwa, 2004).

7.3.7 Problems and Challenges Facing CBNRM in the Okavango Delta

Although the implementation of the CBNRM programme in and around the Okavango Delta has had several positive results, the Community Based Organisations involved in CBNRM are characterised by problems, which generally hamper the performance and success of their various projects. Most of the CBNRM projects in the Okavango are constrained by factors such as a lack of entrepreneurship and managerial skills in the tourism business, that is, the lack of training and capacity building, insecurity of tenure, conflicts between stakeholders, management problems of community trusts and the misuse of funds. These problems affect the success and sustainability of CBNRM in the Okavango Delta (National CBNRM Forum, 2001; Mbaiwa, 2004).

7.3.7.1 Lack of Entrepreneurship and Managerial Skills

The Department of Wildlife and National Parks (DWNP) notes that the CBOs in the Okavango Delta, in general, lack business management skills as well as the necessary experience in developing viable tourism projects in their respective areas. The lack of entrepreneuership and managerial skills in the tourism business by local communities has led many of them to form joint partnerships with safari companies. Most joint ventures are in the form of contract agreements rather than community-private sector partnerships. The latter requires substantial management skills and

trust between stakeholders. The joint venture partnership system in the Okavango Delta is very weak and it directly affects the successful performance of community-based projects (Mbaiwa, 2002). However, joint venture partnerships are assumed to be very important to the success of CBNRM projects (DWNP, 1999; Gujadjhur, 2001). Communities which do not possess knowledge on how to commercially utilise their natural resources, nor the capital to do so, regard forming joint venture partnerships as a means of acquiring such skill and capital, through the transfer of entrepreneurship and management skills to the local people (DWNP, 1999). This goal, however, has not been achieved in CBNRM projects in the Okavango.

According to Rozemeijer and van der Jagt (2000) and Gujadjhur (2001), there is very little transfer of skills between communities and safari operators in the development of tourism-based CBNRM projects in the Okavango Delta. Gujadjhur (2001) states that even though there are communities with tourism operations plans, there is no example of real collaboration and learning between safari companies and communities. Hence, what was intended as a true joint venture partnership through CBNRM has resulted in a management contract where communities have little to do with the management, monitoring or practicalities of running a tourism business. Instead of being managers or being at the forefront in the development of community-based tourism, most of the participating communities have become labourers and land-lords, who are aware that they will receive money from the leasing of their land, regardless of participation or performance (Gujadjhur, 2001; Boggs, 2002). CBNRM has, therefore, created a system of passive participation, raised expectations and provided disincentives to work (Boggs, 2002; Mbaiwa, 2004).

Where local communities have sold their hunting quota or sub leased their Controlled Hunting Areas to safari companies, sums of money accrue to the community-based organisations. However, a lack of entrepreneurial skills by local communities often leads to the failure to reinvest, or the misuse, of such community trust profits. In such cases, there is often a loss of support/interest by community members for the project when their livelihood situations or living conditions do not improve. In January 2001, the Permanent Secretary in the Ministry of Local Governments, Mr. E. Molale, raised the same issue when stating that there is poor handling and use of funds earned from CBNRM projects, failure to conduct audit

reports on financial management and the misappropriation of CBNRM funds by some community trusts. As a result, the Permanent Secretary instructed that all funds earned from community-based projects should be managed in trust by the District Councils instead of the community-based organisations/trusts and safari operators dealing directly with participating communities. However, this has not yet been implemented due to opposition by community trusts and the US Agency for International Development (USAID) which spearheaded the formation of trusts in the country (Kgathi *et al*, 2002; Mbaiwa, 2004).

Most community-based organisations in the Okavango Delta rely on outside assistance for advice on, and for the organisation and management of, community tourist projects. For example, local communities rely heavily on the Department of Wildlife and National Parks, and foreign donor agencies to provide direction on the development and running of such tourism projects. If adequate training on how to effectively manage community projects is not given to communities, community-based tourism ventures are likely to collapse once any outside assistance is finally withdrawn (Mbaiwa, 2002).

According to Mbaiwa (2004), the lack of entrepreneurship and management skills in community-based tourism ventures can be attributed, in part, to the narrow CBNRM programme design and approach. CBNRM was primarily designed to achieve conservation. Issues relating to social empowerment and economic development were largely ignored. The intention of CBNRM has never been to give communities full ownership over land or resources, but to provide them with an incentive to sustainably manage the land and resources in their vicinity in order to help conserve it. Economic benefits were, therefore, perceived as a means of achieving conservation as well as being an end in themselves (Gujadjhur, 2001, Mbaiwa, 2002). As a result, CBNRM in the Okavango Delta is not performing to its full potential due to a lack of empowerment and entrepreneur skills, particularly in the tourism business sector, by local communities. Land and wildlife resources in the Okavango remain centralised by the government, with communities given land user and resource rights for only 15 years (Mbaiwa, 2004).

7.3.7.2 Lack of Understanding of the Concept of CBNRM by the Local Communities

The CBNRM concept in Botswana and the Okavango in particular is relatively new and is generally not understood by the local communities (Mbaiwa, 2002). As a result, community-based projects rely, for much of their support, on the Department of Wildlife and National Parks (DWNP) which mobilises communities to form CBOs and provides them with most of the technical advice in forming joint venture partnerships with safari operators. This dependence on the DWNP in providing direction for CBOs is unsustainable, in (as stated earlier) that projects that rely on outside assistance are generally not fully independent and are most likely to collapse once the external support is withdrawn. In addition, Rozemeijer and van der Jagt (2000) highlight the fact that the DWNP does not have the necessary resources for long-term facilitation. At times it endorses the establishment of a trust, and provides a wildlife quota, knowing that it will not be able to provide the necessary follow-up support, leaving behind a resource rich, but institutionally challenged community (Mbaiwa, 2004).

The lack of understanding by the rural communities of the concept of CBNRM in the Okavango Delta is further illustrated by the failure of communities to invest money generated from CBNRM projects appropriately. This is shown by many local communities proposing and engaging in community-based projects that are too elaborate and complicated for them to understand and manage. For example, in an attempt to re-invest funds generated from land rentals or the sale of wildlife quotas, almost all CBOs have bought Land Cruiser vehicles, which have effectively been turned into free public transport systems for the respective villages. They have also tried to invest their money by starting up businesses such as kiosks and bottlestores in their villages, which often failed due to a lack of managerial skills and mismanagement of funds (Table 7.11) (Mbaiwa, 2002).

Table 7.11: Brief Review on Progress Made by Six CBOs in the Okavango Delta in 2000

Name of CBO	Village(s) Involved	Comments
Sankuyo Tshwaragano Management Trust	Sankuyo	- households got Pula 200 each in 1997 - built 40 Enviro Loo toilets for 40 households (not operating) - purchased a Land Cruiser, built an office and social centre - building traditional village in their community area - opened kiosk, which stopped operating due to losses
Okavango Community Trust	Seronga, Eretsha, Gunotsoga, Beetsha, Gudigwa	- bought a plot at Seronga with shop, bottlestore, guest house and office (shop and bottlestore closed due to mismanagement of funds - built kiosks in Gunotsoga, Eretsha and Gudigwa, which have closed down due to mismanagement of funds - purchased 2 Land Cruisers, 1 truck and 1 motor boat (motor boat not operational due to breakdown)
Mababe Zokotsane Community Trust	Mababe	- bought a vehicle, and besides sub-leasing their land and sale of wildlife quota, they have no immediate plans of what to do in investing in tourism business
Okavango Kopano Mokoro Community Trust	Ditshiping, Boro, Xaxaba, Daunara, Xharaxao, Xuxao	- bought a Land Cruiser - currently have no plans to invest in any new activities
Khwai Development Trust	Khwai	- in the process of buying a vehicle and constructing two tourist camps (traditional villages) in their community area
Cgaecgae Tlhabologo Trust	Xaixai	- started office, campsite, trust hall, craft shop, and guest house (all of which are operational) - bought a Land Cruiser - future plans to open a bakery and start a vegetable garden

Source: Adapted From Mbaiwa, 2002.

The lack of understanding and the necessary entrepreneurial skills to run tourism projects force CBOs to seek the assistance of private sector safari companies who have such knowledge and experience. This problem is exacerbated by the fact that there is too much focus on high-income tourist projects requiring high levels of organisational managerial skills, which is not easily available in rural areas. Community-based tourism projects would be more successful if perhaps, more focus was placed on viable and appropriate projects that could be managed with the locally available skills in rural areas (Mbaiwa, 2002).

The sub-leasing of concession areas by CBOs has also resulted in some safari hunting operators exploiting the situation to their advantage. Their ability to market themselves in Europe provides tremendous profit from animal quotas that they buy

cheaply from communities in Ngamiland District. For example, in 1998, a single elephant that a safari hunting operator bought at Pula 22 000 (US $ 4500) from a community quota, was sold at US $ 50 000 (Pula 250 000) to spot hunters from Europe. In 2000 an elephant cost Pula 40 000 (US $ 8000) to buy from community quotas, which was then sold for US $ 80 000 (Pula 400 000) to international commercial hunters (Mbaiwa, 2002).

7.3.7.3 Poor Distribution of CBNRM Financial and Employment Benefits

The poor distribution of financial and employment benefits from CBNRM projects is one of the critical issues affecting the sustainability of the CBNRM programme in the Okavango Delta. Many community members who are involved in CBNRM projects receive no financial, employment or food benefits from CBNRM at a household level. For example, according to Mbaiwa (2004), 52.1 percent of the households in the three villages of Ditshiping, Khwai and Seronga, who are involved in the OKMCT, KDT and OCT community-based projects respectively (Table 7.10) stated that they do not receive any benefits from the CBNRM projects in their villages. The highest figures were in Ditshiping and Seronga where 78.1 percent and 50.9 percent, respectively, said that they derived no benefits from CBNRM projects. The rest of the respondents stated that they derive benefits in the form of meat, income and employment from CBNRM.

According to Mbaiwa (2004), at a community level, the village of Ditshiping does not benefit significantly from CBNRM through the OKMCT. Community members noted that they do derive the expected benefits such as the use of trust vehicles and the establishment of community-projects that were promised when joint-venture partnerships with safari operators were made. Most members of the Ditshiping community are also not clear as to whether they should receive benefits through the CBNRM project as individual households or as a community as a whole, from their trust (Mbaiwa, 2004).

The Gudigwa community, which is part of the OCT (Table 7.10), and consists largely of Basarwa or San (Bushmen) individuals, also does not receive any significant benefits from CBNRM. According to Taylor (2001), the Gudigwa community do not receive their fair share of the benefits that accrue to the OCT from the sub-leasing of

their land, etc., such as cash, meat and the use of OCT vehicles. Taylor (2001) interprets this lack of benefits as partly due to the ethnic differences between the San of Gudigwa and the other four villages/members of the trust (who comprise mostly Bantu groups such as Basubiya). The San claim that their village is looked down upon by other members of the Trust because they are Basarwa or San. They state that they would prefer to form an independent trust and gain their own concession area and wildlife quota. However, attempts to create a 'Bushmen only' trust by the people of Khwai were not accepted by the Botswana Government, and hence any attempts by the Gudigwa community will almost certainly fail (Mbaiwa, 2004).

The poor distribution of benefits from CBNRM projects is a result of factors such as: ethnic differences and internal conflicts between members of a trust, and poor co-ordination between the Village Technical Committees/Board of Trustees and the general community. For example, the DWNP (2000) notes, that in the OCT and OKMCT, there is poor communication between trust board members and the wider community. This has resulted in a 'lack of ownership' of the trust by villagers or community members. With regards to the OKMCT, the DWNP (2000) further notes that the long distances between the six villages belonging to the trust, and poor working relations between the villages, has resulted in the failure by the six communities to appreciate the trust as their own. This has resulted in the Village Technical Committees/Board Members running the trust without much participation from the other community members (Mbaiwa, 2004).

As a result of such a situation, in many villages that are involved in CBNRM projects, it is only trust members that receive direct benefits from CBNRM. However, the distribution of benefits is probably the most crucial component of CBNRM, and if not worked out in sufficient detail, becomes a potential stumbling block for CBOs (Mbaiwa, 2004).

7.3.8 CBNRM and Natural Resource Conservation

One of the primary objectives of CBNRM is community participation in natural resource management. Through local involvement and the ability to derive economic benefits from the resources in their local environment, it is assumed that

communities will develop positive attitudes towards natural resources and, hence, use them sustainably. In assessing the local community attitudes towards natural resources, studies conducted in both Botswana and Southern Africa were considered. Mordi (1991) and Perkins and Ringrose (1996), for example, state that attitudes and perceptions of the local people within Ngamiland District are generally negative towards wildlife conservation. Findings by Mwenya *et al* (1991) regarding the situation in Zimbabwe show that people's attitudes are largely based on the personal or community ownership they attach to wildlife resources (Mbaiwa, 2004). However, according to Mbaiwa (2004), within the Okavango Delta area itself, communities are increasingly developing positive attitudes towards natural resource conservation. For example, Mbaiwa (2004) states that, within the three villages of Khwai, Seronga and Ditshiping (all of which are part of the CBNRM programme) 60.9 percent of the local inhabitants interviewed felt that it was necessary to have wildlife resources in the grasslands and forests of the Okavango Delta.

Respondents argued that wildlife attracts tourists to the area and tourism creates employment opportunities, development, and generates revenue. Hence, the respondents view wildlife as a valuable resource. On the other hand, 37.6 percent of the local inhabitants interviewed within these three villages stated that they did not support the existence of wildlife within the Okavango Delta. These respondents regard wildlife as being destructive to their crops and livestock, as well as spreading disease to livestock. They also stated that the existence of wildlife in the area has led to much of their land being occupied by foreign tourism investors, from which they generally derive very little, or nothing at all (Mbaiwa, 2004).

The Department of Wildlife and National Parks in Maun noted that ever since the introduction of the CBNRM programme in the Okavango area there has been a reduction in poaching statistics. This demonstrates that local communities are starting to place increasing value upon wildlife resources, which helps to encourage the sustainable use of the resource within their local environment. According to the DWNP, local attitudes and perceptions within the Okavango Delta are slowly beginning to change, from negative views on wildlife conservation, to positive perceptions of sustainable, local natural resource use and management (Mbaiwa, 2004).

7.4 Summary and Conclusion

While the implementation of CBNRM projects in the Okavango Delta has problems, it is still too early and unrealistic to assess and pass judgement that these projects have completely failed. They have only been operating for less than a decade, and the mere fact that there is an operating CBNRM programme in Botswana can, in itself, be considered a success (Mbaiwa, 2002).

CBNRM in the Okavango Delta has succeeded in income generation, employment creation and the establishment of local institutions meant to ensure local participation in natural resource management and tourism development. CBNRM has also succeeded in determining the economic value of natural resources in the Okavango Delta. The high economic value placed on natural resources, especially wildlife, has started to result in the development of positive attitudes, by the rural communities towards natural resource conservation, particularly wildlife. Even though there have been socio-economic, political and conservation benefits achieved through the implementation of CBNRM in the Okavango Delta, the sustainability of the programme remains questionable. However, in the event that all stakeholders (e.g., government, community-based organisations, private sector and non-governmental organisations) share information, building communications networks in promoting trusts and transparent decision making is carried out, it is possible for CBNRM to ultimately achieve its objective (Mbaiwa, 2004).

This chapter provided an overview of the present day use of natural resources by the local communities in the Okavango Delta. It presented an analysis of the critical issues relating to current natural resource utilisation and management structures in the Okavango, focusing in particular on tourism's impact upon the Delta's natural resources. Lastly, it provided an overview of the Community Based Natural Resource Management (CBNRM) programme in the Okavango Delta and discussed in detail the issues associated with the implementation of this programme and its role in natural resource management. The next chapter provides a detailed overview of the socio-cultural and environmental impacts arising from the development of the tourism industry in the Okavango Delta, and focuses on the current and future threats facing the Okavango Delta and its resources.

CHAPTER EIGHT

The Socio-Cultural and Environmental Impacts of Tourism in the Okavango Delta Region

8.1 Introduction

The promotion of tourism in Botswana gained momentum in the early 1990s as a result of the government's attempt to diversify the country's diamond-based mono-economy. Prior to the 1990 tourism policy, the industry had not been given much prominence, but with the government's attempt at diversification tourism was identified as an additional engine of growth (Ndubano, 2000). It has been argued that the growth of tourism in the Okavango Delta has led to several socio-economic benefits. These include employment opportunities for the local population, the generation of foreign exchange, the conservation of the Okavango Delta and its natural resources, and the stimulation of infrastructural developments (Mbiawa, 2001). However, as the Delta's tourism industry grows, a number of negative socio-cultural and environmental impacts are also increasingly becoming evident.

Additionally, increasing pressure from the growing population in Namibia, and plans to start the process of development and modernisation, with the end of the civil war, in Angola, means that the governments of both these countries are formulating plans to use the Okavango River and its catchment area for irrigation projects, the creation of dams to supply water to urban centres and hydro-electric schemes. Such developments would undoubtedly place the continued existence of the Delta, in its present state, under threat (Bock, 1998; Mbaiwa, 2002).

This chapter presents an in-depth review of the socio-cultural and environmental impacts of the international tourism industry in the Okavango Delta region. It also reviews the current and future challenges and threats that face the Okavango Delta and the Okavango River Basin as a whole.

8.2 Impacts of Tourism on Local Culture and Traditions

There are conflicting views amongst safari operators and the managers of tourist accommodation facilities in the Okavango Delta and the local inhabitants of the area in relation to the socio-cultural impacts caused by the development of tourism in the Okavango. According to the 63 managers of tourist accommodation facilities interviewed in the Okavango Delta, 33 (52 percent) regarded tourism as having a negative socio-cultural impact on the local inhabitants of the Okavango Delta, particularly in Maun. The remaining 30 (48 percent) either had no opinion on the matter, or felt that the development of tourism in the Okavango Delta was having a positive impact on the area's local population.

According to the 50 local inhabitants interviewed in the Okavango Delta, 31 (62 percent) felt that the development of tourism was not having a serious socio-cultural impact on the area's local population, while the remaining 19 interviewees (38 percent) stated that they either did not know what impact tourism was having on the local population, or regarded the growth of tourism in the Okavango as being a predominantly negative development.

According to Mbaiwa (2002), many people in the Okavango Delta, including both the local population and those directly involved in the tourism industry such as tourist facility managers regard the growth of the tourism industry in the area as being a positive development. Many felt that:

- Tourism is the economic backbone for the whole of Ngamiland District, and is noted for its economic contribution to the economy of the region through the creation of employment, income generation, and the facilitation of the provision of social services and infrastructural developments;

- The development of tourism in the Okavango Delta has led to the promotion of environmental conservation and management. Tourism is increasingly being regarded as the driving force behind all the conservation and management strategies being developed for the Okavango Delta. For

example, the implementation of the 'high-cost, low-volume' tourism policy focuses predominantly on the conservation of the Delta; and

- Tourism encourages cultural exchange and diversity. Many tourism operators in the Okavango Delta regard the cultural exchanges that occur through tourism as being positive, particularly for the local population, rather than being a destructive force, as it is often assumed (Mbaiwa, 2002).

However, there are equally as many individuals in the Okavango who regard tourism as having a seriously negative impact on the area and its people. The improvement of infrastructure and other social amenities, brought about by tourism growth has resulted in both Maun and Shakawe becoming semi-urbanised. This has in turn led to the escalation of several social problems in the area which are directly linked to the development of the Delta's tourism industry. These include changes in dress patterns as local inhabitants, particularly the young, begin to adopt foreign dress codes which can often be culturally unacceptable, especially to the elderly. Through the demonstration effect, local inhabitants, particularly in areas such as Maun, often start consuming the same foods as tourists, replacing their traditional staples with imported, foreign foods, bought from shops.

With the growth of Maun, and to a far lesser extent Shakawe, prostitution in the Okavango Delta has also increased. Although not yet as prevalent as in areas such as Gaborone and Francistown, prostitution is slowly growing in areas in the Delta frequently visited by tourists. Such areas include, in particular, bars and restaurants in Maun such as the Sedia Hotel and Bull and Bush Restaurant and Bar. Prostitution in Maun is a direct result of the urbanization of the town, which was/is largely influenced by the growth of tourism in the Okavango. Prostitution is also associated with the breakdown of local culture.

Even though Botswana is generally described as being a crime-free country, crime in Maun is noted to be on the increase (Table 8.1). According to Cooper *et al* (1998), the link between tourism and crime is difficult to establish. For example, does crime increase in an area where tourism has developed simply because of the associated increase in population density, or is it more specifically associated with tourism itself. Cooper *et al* (1998) further note that the presence of large numbers of

tourists in an area provide a source for illegal activities including drug trafficking, robbery and violence. In Maun, the increase in crime can be attributed both to the influence of tourism and the rate of urbanization. Apart from the peri-urban villages of Mogoditshane, Tlokweng and Bobonong in Botswana, Maun's population has grown faster than that of any other village/town in the country. Other infrastructural developments such as hotels and lodges, wholesale and retail centres, and telecommunications have also dramatically increased over the last decade. The growth of Maun in terms of population, trade and infrastructure is also directly associated with the increase in crime in the town (Mbaiwa, 2002).

Table 8.1: Reported Crime Statistics in Maun, 1999 to 2001

Year	Reported Cases of Theft	Other	Total Reported Cases	Annual rate of Increase (%)
1999	431	2343	2774	
2000	501	2568	3069	10
2001	642	3429	4071	25
Total	1574	8340	9914	17.5

Source: Adapted From Mbaiwa, 2002.

Table 8.1 Shows that crime increased by 17.5 percent between 1999 and 2001 in Maun. Petty theft was noted by the Maun Police Station Commander as being the most common crime in the town. Drug trafficking, which is usually associated with tourism was reported to be almost non-existent in Maun (Mbaiwa, 2002).

8.2.1 Migration in the Okavango Delta

The levels of out-migration in the Ngamiland District from rural agricultural villages to the major towns in the region have increased drastically since the early 1990s. The population of Maun increased by some 38,9 percent from 26 768 in 1991 to 43 776 in 2001, and similar situations are present in Shakawe and Etsa 6. The tourism industry has contributed to this rural-urban migration. The growth of tourism in the Okavango Delta, especially Maun, has led to significant infrastructure development and resultant employment opportunities. These include opportunities in the tourism industry itself, as well as in the retail, trade, wholesale, transportation, education and

construction industries and public administration departments. This infrastructure growth has made the major towns in the Delta 'magnets', drawing rural agricultural dwellers to the 'urban' centres and further decimating the already thinly populated rural-agricultural areas (Ndubano, 2000).

One of the most significant impacts of tourism growth and infrastructure development in the Okavango Delta has been the increase in school attendance since the early 1990s. According to the Republic of Botswana Demography Survey (1998), the number of individuals in the Ngamiland district who had never attended school declined from 30 percent in 1991 to 21,1 percent in 1998. Throughout the whole of Botswana, the primary education sector experienced a 1,5 percent increase in enrolment from 325 948 to 330 767 pupils between 2000 and 2001, which is 0,9 percentage point higher than the 1999 to 2000 growth of 0,64 percent (Republic of Botswana Statistical Bulletin, 2001).

The growth in education levels in the district has also contributed to the increase in rural-urban migration in the Delta. In an attempt to increase education levels throughout the country, the Botswana government has established primary schools in most of the villages, and high schools with boarding facilities in all the larger towns in the Delta. As a result most rural high school students as well as many primary level students travel to the 'urban' towns to attend school, where they board for up to 3 months at a time. The socio-economic impact of this system is drastic.

Firstly, this alters the population demographics of the rural villages in that most individuals within the age group of 15 to 20 years are absent for significant periods of time, attending school. With the increase in migratory movements from rural villages to the larger towns in the Delta over the past ten years, the number of males between the ages of 20 to 40 years in the rural agricultural areas has greatly decreased. This is due to the earliest immigrants typically being males, seeking employment in the larger towns, while their wives, children and other household members remain in the villages, providing a social safety net (Daltabuit and Pi-Sunyer, 1990). Hence, in most of the smaller agricultural villages in the Okavango Delta there is a lack of males between the ages of 20 to 40 years and a lack of individuals, both male and female, within the 15 to 20 year age-group. This tends to alter the family structure and the gender-based division of labour in that the females

are left to perform all the traditional livelihood tasks, including those traditionally undertaken by the males only. This impacts on the local production patterns and the productivity of rural village households in that, with the absence of many of the males, less crops are planted and harvested by the remaining female groups, and less traditional foodstuffs are collected from the Delta. There has been an overall decline of 35,6 percent in the volume of crops harvested in the Ngamiland region since 1995 (Republic of Botswana Statistical Bulletin, 2001).

There is also an increasing trend amongst high school leavers in the Okavango Delta to stay in 'urban' towns to seek formal employment, rather than returning to their agricultural villages to resume their subsistence livelihoods. This has resulted in an increase in rural-urban migration levels and a subsequent decrease in the practice of traditional livelihood strategies in the Okavango Delta.

According to the local survey respondents, 4 of the ten individuals interviewed in Maun stated that they had moved there from rural agricultural villages, within the last fifteen years. Five out of the ten individuals interviewed in Shakawe, and two out of the ten individuals interviewed in Etsa 6 also stated that they had moved there within the last fifteen years. This urban-ward migration has significantly impacted on rural households in the Okavango Delta and their ability to carry out traditional subsistence strategies and produce an agricultural surplus for sale. The growth of tourism in the Okavango Delta, and the resultant infrastructure developments in the major towns served to further decimate the already thinly populated rural areas, leaving fewer agricultural workers and only the very young and old behind in the villages.

8.2.2 Socio-Economic Impacts of Migration in the Okavango Delta

The socio-economic impacts of rural-urban migration on rural migrants and their households in the Okavango Delta have been extreme. The rural to urban movement of poor farming populations in search of improved income earning opportunities in the Delta has led to an explosive growth in informal housing settlements in all the major towns. Existing basic services, especially in Maun, are unable to support this rapidly growing informal population which is therefore forced to live in increasingly polluted and degraded conditions.

Rural migrants generally undergo changes in dress, consumption patterns and language, replacing their traditional dialect with Setswana and English, following their arrival in the 'urban' towns. Setswana and English are the accepted 'languages of commerce' in Botswana, and hence a migrant's ability to speak them will increase their chances of securing employment. The process of acculturation, however, is gradual as most migrants tend to maintain ties with their home villages, with many returning regularly to participate in seasonal agricultural activities during their first five to ten years in the larger towns.

While many studies have been done on the differential impacts of tourism on gender (Kinnaird, 1994; Momsen, 1994; Swain, 1989; Swain, 1995), few studies have examined the effects of tourism and migration on gender around the world. In the Okavango Delta, most jobs associated with the early stages of tourism development, such as construction, recruit males. However, later stage employment tends to support significant numbers of female jobs. For example, the Delta now has over 1500 hotel rooms requiring daily maid service. According to the local survey respondents, 14 percent of the migrants interviewed in Maun were female. The majority of them stated that they had moved to Maun from rural villages to join their husbands once they had found formal employment. Only four percent of the female migrants, stated that they had found formal jobs in Maun, while less than one percent stated that they were employed in the tourism industry.

The next section focuses specifically on the impacts of tourism development on the Okavango Delta's physical environment.

8.3 The Environmental Impacts of Tourism in the Okavango Delta

As the tourism industry in the Okavango Delta is still relatively young, with just over a decade of development, it is difficult to accurately assess its impacts on the areas environment. However, a number of both positive and negative issues are becoming increasingly evident with the development of the industry in this region.

8.3.1 Positive Environmental Impacts of Tourism

There are three main positive impacts of tourism development in the Okavango Delta. These include the adoption of wildlife conservation and tourism development policies, the strengthening of wildlife conservation and tourism development institutions, and the conservation/preservation of the Okavango Delta and its resources as a tourist destination.

8.3.1.1 Wildlife Conservation Policies and the Preservation of the Okavango Delta

Although Botswana already had wildlife conservation and tourism policies prior to independence in 1966, most of these policies have been strengthened and others developed after independence, particularly from the late 1980s onwards, with the development of tourism. Botswana's predominantly wildlife-based tourism industry, mainly concentrated in the Okavango and Chobe regions, has been expanding rapidly since the late 1980s. Recognition of the economic potential of tourism in these regions in the late 1980s/early 1990s resulted in the government implementing policies to support the development of the industry. As a result, for the first time in Botswana's history, the adoption of policies designed to promote wildlife conservation and tourism development received prominence in the Botswana National Development Plan Six of 1985/86 to 1990/91. The two main policies that were developed during this time period are the Wildlife Conservation Policy of 1986 and the Tourism Policy of 1990. These policies are the basis upon which wildlife conservation and tourism development in modern Botswana has evolved (Mbaiwa, 2002).

The success or failure of wildlife conservation and tourism development policies were discussed at the end of the last chapter. However, it should be noted that it is easy to adopt a policy or strategy, but far more difficult to successfully implement it. While the successful implementation of wildlife conservation and tourism development policies need close scrutiny, their adoption indicates governments' commitment in trying to promote an environmentally friendly wildlife-based tourism industry in Botswana. The introduction of the CBNRM programme into the Okavango Delta is a further step in ensuring the preservation of the Delta and its resources. If

economic benefits from the conservation of the Delta and its wildlife can be made to accrue to local communities in the area, this will help ensure the Okavango's long-term survival.

The main limiting factor of government policies in Botswana is that they are not specific to a particular region, but are designed to be applicable nationally. As a result, Botswana has so far not adopted any policy aimed at tourism development and wildlife conservation specifically for the Okavango Delta (Mbaiwa, 2002).

8.3.1.2 The Strengthening of Wildlife Conservation and Tourism Development Institutions

The management of wildlife resources and tourism development, up until 1985, was the responsibility of the Department of Wildlife, National Parks and Tourism, established in 1968/69. Tourism management was a small unit within this department. However, the growth of tourism and the need to strengthen the management of wildlife resources, which were/are the main tourism product, led to the review of the Department. The review process of the Department of Wildlife, National Parks and Tourism led to the establishment of the Department of Wildlife and National Parks, with five main divisions. It also led to the establishment of the Department of Tourism as a separate department to promote and cope with tourism development issues in the country. The two departments were put under the Ministry of Commerce and Industry (Mbaiwa, 2002).

More changes were been made to the Department of Wildlife and National Parks and the Department of Tourism in the late 1990s. In 1999, the two departments went through yet another restructuring process where there was a renaming of the Ministry of Commerce and Industry, which became the Ministry of Trade, Wildlife and Tourism. Three years after the renaming of this ministry, further changes were made in wildlife and tourism management in Botswana. In June 2002 the Departments of Wildlife and National Parks and Tourism were separated from the Trade Ministry and joined with that of Environmental Affairs. Hence, the new ministry became to be known as the Ministry of Environment, Wildlife and Tourism. This strengthening and elevation of wildlife management institutions in Botswana indicates the important role that natural resources and tourism development play in

the country. As a result, it is assumed that the various changes that have been effected in these two departments will help to promote the sustainable use of Botswana's natural resources for commercial purposes (Mbaiwa, 2002).

The Botswana Government is in the process of establishing a National Tourism Board, which will result in the decentralisation of tourism management. The main benefit from this body is expected to be the provision of a more responsive and commercially-minded organization for the development and promotion of tourism, based on a closer partnership between the public and private sectors, as well as on a wider range of stakeholders (DOT, 2000). The changes that have occurred in the wildlife and tourism institutional framework in Botswana in the last two decades indicate the recognition by government of the important role that wildlife and tourism play in the economy of Botswana. Although the two departments have their limitations and weaknesses, they have been able to provide management in the use of natural resources for tourism purposes in the country (Mbaiwa, 2002).

8.3.2 Negative Environmental Impacts of Tourism

According to Ceballos-Lascurain (1996), there are direct and indirect impacts of tourism in conserved or environmentally sensitive areas. Direct impacts are caused by the presence of tourists while indirect impacts are caused by the infrastructure that develops or is created to support the tourism industry. As a result, Ceballos-Lascurain (1996) maintains that the negative impacts of tourism can only be managed effectively if they have been identified, measured and evaluated. Once this has been done, tailored management responses can be created.

With regards to the negative environmental impacts of tourism in the Okavango Delta, the greater majority (39 or 62 percent) of the 63 tourist accommodation managers interviewed between 2003 and 2004 felt that tourism was not having any significant, negative impacts on the Okavango Delta's environment. The remaining 24 interviewees (38 percent) stated that tourism was having a negative environmental impact on the Okavango Delta. Of the 24 managers that felt tourism was negatively impacting upon the Delta, approximately 7 of them stated that some of the tourist facilities in the area (not their own) were causing severe impacts on the ecology of the areas surrounding their facilities. For example, some of the managers

stated that these facilities were causing damage associated with the use of motor boats, setting fires in areas of the Delta to attract game, and polluting the Okavango waters through poor and insufficient waste management practices.

Most of the 39 interviewees who stated that tourism was not having a negative impact on the Okavango regard the tourism industry as being the economic backbone of the area, rather than being a destructive force. According to Mbaiwa (2002), most of the safari workers in the Okavango Delta also associate tourism development with positive socio-economic benefits rather than with negative environmental impacts. However, according to the World Commission on Environment and Development (WCED), emphasis on economic benefits at the expense of environmental factors, does not constitute sustainable development. Sustainable development promotes economic development that ensures that environmental conservation is taken into consideration (WECD, 1987).

Despite the conflicting views by tourism industry employees on the impacts of tourism development on the Okavango Delta's environment, an increasing number of negative tourism impacts are becoming visible with the growth of the Delta's tourism industry. Additionally, according to key informants in the Department of Wildlife and National Parks, Conservation International, the Harry Oppenheimer Okavango Research Centre, Department of Agricultural Research, and Department of Tourism, in Maun, the growth of the Okavango Delta's tourism industry, the increase in tourist numbers in the region and the development of associated infrastructure, is having increasingly negative impacts upon the area's environment and sensitive ecology.

According to personal interviews conducted with Lovemore Sola, Biodiversity Corridor Manager at Conservation International (CI) in Maun, Patricia Chilume, from the Department of Tourism in Maun, and Joseph Mbaiwa, Tourism Research Fellow at the Harry Oppenheimer Okavango Research Centre in Maun, there are a number of serious tourism impacts coming to the fore in the Okavango Delta. Also, as the industry is still relatively new, many of the tourism facilities are in extremely remote areas of the Delta. Due to the lack of manpower and resources of the various government departments tasked with monitoring and managing tourism in the area,

most of these impacts remain unchecked. With the increase in tourism in the area, such impacts will only become more severe.

Perhaps the biggest impact of tourism development in the Okavango Delta over the past decade or so has been the resultant infrastructure that has grown to support the industry. With this infrastructure, the Okavango Delta has become accessible, and it is this accessibility that places the very existence of the Okavango Delta under threat. An increase in the number of people coming into the area means an increase in the number, and degree, of negative impacts on the Delta. The Okavango has, in fact, only remained pristine and secure up till now, due to its isolation and low population densities. With the development of tourism in the region since the late 1980s, and infrastructure improvements, more people are coming into the area every year, placing increasing strain on this fragile wetland and its resources. Furthermore, the accessibility of the Delta now allows for the development and implementation of projects to use the area's resources commercially. For example, large scale commercial irrigated agricultural ventures in the Delta and the extraction of Okavango water for urban centres which previously were not possible due to the area's isolation and inaccessibility can now be carried out. It is, however, also only through recent tourism development, and its associated economic benefits that the area has remained preserved and largely unchanged, with no major (and damaging) resource-use developments (such as water extraction) taking place in the Delta over the past two decades.

More specifically, the negative impacts of tourism growth on the Delta's environment and resources include the following sub-sections:

8.3.2.1 Use of Motor Boats and Noise Pollution in the Okavango Delta

With the dramatic increase in tourist numbers and facilities over the past decade or so in the Okavango Delta, as well as the associated infrastructure developments and the introduction of Community-Based Tourism ventures in the area, there has been an alarming increase in the number of both tourist, and local community motor boats in the Delta and Panhandle areas. Local inhabitants, who traditionally used mekoro's for travel through the Delta's waterways, are now increasingly relying on motor boats or 'water taxis' to move between villages, and areas of resource utilization, such as

fishing grounds. This is resulting in a number of negative impacts. Firstly, the increased number of boats with outboard engines is leading to oil spillages and the pollution of the Okavango's waters. As most parts of the Delta are still relatively isolated, many of the boat engines (particularly local community boats) are not serviced and develop leaks. While the extent of oil pollution from boats in the Delta is not too serious yet, the cumulative effect of this oil, together with other forms of water pollution (which will be discussed later) can have a serious, long-term effect on the health of the river system and its aquatic life.

Noise pollution from motor boats, small aircraft, road vehicles and tourists themselves has also become a problem in the Okavango Delta. The noise disturbs hippopotamus populations, nesting birds and other wildlife species in the Delta. Roodt (1998) notes, with regards to the Xakanaxa area in the Moremi Game Reserve, that ten years ago, when there were far fewer boats, the islands on the fringes of the Xakanaxa lagoon were favourite nesting spots for many aquatic birds. However, today, with the increase in tourism and hence boats in the area, only a few birds nest in the lagoon area. Roodt (1998) further states that the increase in boat traffic in the Gedikwe/Xhobega area of the Reserve has already led to a decrease in the number of bird nesting sites between 1991 and 1998.

The influx of tour operators in the Delta has also led to an increase in the number of small airplanes (and recently helicopters) and the establishment of new airstrips in the area. Aircrafts are used to carry tourists and supplies throughout the Okavango area, and hence are a source of noise pollution which alarm bird and animal life. There are approximately 25 privately owned airfields in and around the Okavango Delta registered with the Department of Civil Aviation. In addition, the government maintains seven airstrips in the area, excluding those used by the Botswana Defence Force. There is also a total of 14 privately owned air charter companies, with over a hundred small engine aircraft operating in the Okavango Delta. According to the Department of Civil Aviation in Maun, the construction of some of the airstrips in the Okavango Delta was unwarranted due to the density of already existing airstrips in the area. The presence of so many aircraft in the Okavango, which in most cases fly at low altitudes, disturbs the wildlife and birds (Main, 2001; Roodt, 2004).

According to Lovemore Sola of Conservation International in Maun, the seasonal flooding of the Delta makes many areas, including most of the tourist facilities, inaccessible by road vehicles for a number of months throughout the year. To get around this problem, an increasing number of tourist operators are constructing private airstrips at their facilities, which has greatly increased the number of small aircraft moving in and out of the Delta. Previously, the seasonal flooding of the Delta made much of the area inaccessible to tourists for approximately 4 to 5 months of the year, which gave the ecosystem and its resources time to regenerate from the negative impacts of having tourists in the area. However, with the increase in airstrips and small aircraft in the Delta, and lately with the growing use of helicopters, the area is becoming increasingly accessible to an increasing number of people, all year round.

The proposed expansion of Maun airport to accommodate more tourists and larger aircraft means that the volume of tourists and traffic in the Okavango Delta will increase. While the expansion of the airport will bring greater economic benefits, it is also likely to result in greater negative impacts on the Delta's environment. Tourist destinations such as the Okavango Delta need to have clearly defined carrying capacities and limits of acceptable change in order to promote sustainable tourism development (Mbaiwa, 2002).

Noise pollution from small engine aircraft in the Okavango is exacerbated by noise from motor boats in the area. Referring to the Xakanaxa area in the Moremi Game Reserve, Roodt (1998) states that a total of 32 power boats, of which 26 belong to safari operators are licensed for use in the area. There are also an estimated 110 motor boats owned by the various tour operators in the Panhandle area. The fast movement of such boats creates wakes that disturb nesting birds and flood nests on river banks, frightens mammals and reptiles that live in or near water and causes the erosion of river banks, particularly in the Panhandle area. Crocodiles and hippopotamus seek undisturbed areas and the presence of too many tourists in the Okavango Delta disturbs these species. Roodt (1998) states that hippopotamus, which were present in large numbers in the Xakanaxa lagoon seven years ago, have already moved out of the lagoon with the increase in tourists and boats in the area. Local fishermen in the Panhandle area also report that boat noise is disturbing fish at nesting sites. The problem of noise pollution in the Okavango Delta demonstrates

a failure by the government to implement necessary management plans, and to adequately monitor the tourism industry in the Okavango Delta.

According to the 224 tourists interviewed in the Okavango Delta between 2003 and 2004, a total of 204 individuals, or 91 percent, stated that they had, or intended to, go on a wildlife and bird viewing, or fishing boat trip in the Okavango. Additionally, 130, or 58 percent, of these tourists also stated that they had, or intended to, go on a scenic, and game viewing aeroplane flight over the Okavango Delta. This demonstrates the demand (and pressure) placed on tourism operators to use the Okavango's resources to satisfy tourist demand, even at the expense of the resource.

In addition to the problems associated with the wakes and noise from motor boats in the Okavango, the mere presence of both motor boats and mekoros disturbs wildlife in the area. For example, in order to enable tourists to view and photograph wildlife clearly, many boat drivers take tourist boats right up to bird nests on river banks and in low branches hanging out over the water, nocturnal birds sleeping in trees that are accessible to tourists, and crocodiles lying on river banks. This frightens birds away from their nests, leaving the eggs/chicks vulnerable to predators, and disturbs crocodiles and roosting birds, resulting in them moving away from tourist areas. In fact, this form of wildlife harassment is becoming such a problem that during the peak tourist season, well known bird nesting and crocodile basking sites may be visited by different tourist boats as often as every 15 to 20 minutes. According to the 224 tourists interviewed in the Okavango Delta between 2003 and 2004, a total of 185 individuals, or 83 percent, stated that the experience of viewing wildlife up close, while in the area, particularly animals such as crocodile, hippopotamus, elephant, rare birds and predators, was important to them. This demonstrates the demand (and pressure) place on tour guides and operators by the tourism industry to provide such visitors with unique wildlife viewing opportunities. Hence, most of the tour guides in the Delta will disregard the welfare of the wildlife in order to satisfy tourist demand for game-viewing experiences.

8.3.2.2 Creation of Illegal Roads in Environmentally Sensitive Areas

The high numbers of tourists in the Okavango Delta creates problems for the efficient monitoring of tourist activities by government officials. This has resulted in the creation of illegal roads by tourist/tour operator vehicles in many environmentally sensitive areas, such as in the Moremi Game Reserve. The creation of illegal roads affects vegetation and reduces the scenic beauty of the Okavango. According to Roodt (1998), there are up to 178 tourist vehicles that use the Xakanaxa area in the Moremi Game Reserve every day during the peak tourist season. Apart from the overutilisation and creation of illegal roads by tourists and tour operators in Moremi, the vehicles are also a source of noise pollution and disturb the area's wildlife.

The creation of illegal roads is exacerbated by the fact that tourist camps and lodges are generally concentrated within small areas in various parts of the Delta. This is an apparent failure of the Departments of Tourism, and Wildlife and National Parks to observe carrying capacity in an environmentally sensitive area. The concentration of camps and lodges within a small distance from one another also reflects a failure by government to devise a proper management plan for tourism development in which the radius between each facility is based on some recognition of the ecological impacts of such facilities in the Okavango Delta. The creation of many illegal roads and tracks also indicated failure by the Departments of Tourism, and Wildlife and National Parks to implement national rules and regulations controlling tourist traffic and numbers in environmentally sensitive and protected areas (Mbaiwa, 2002). Additionally, during the dry-season in the Okavango Delta, there is a problem of tourism operators driving on floodplains in the Delta to take tourists on wildlife viewing, and safari hunting expeditions. This affects vegetation and a number of floodplain-bird nesting sites (such as Plovers), disturbs wildlife, and impacts negatively on the aesthetics of the Delta's floodplains. By the end of the dry-season vehicle tracks criss-cross entire floodplain areas.

8.3.2.3 Impacts of Tourist Accommodation Facilities on the Okavango Delta

Littering, especially plastic bags, pieces of paper, cans and bottles, is common along the roads and in campsites in the Okavango Delta. The high volume of tourists visiting the Okavango Delta has reached levels where the amount of garbage

generated has increased and is beginning to negatively impact upon the Delta environment. Firstly, the presence of litter detracts from the aesthetic value of the Delta, making pristine environments look ugly. Secondly, the presence of litter in campsites attracts scavengers such as baboons, monkeys and hyenas, which pose a threat to tourists and their belongings. These animals can very quickly become a problem in tourist areas, and often have to be shot as 'problem animals'.

The overcrowding of public campsites in the Okavango Delta, particularly in the Moremi Game Reserve, leads to problems with the sanitation systems in the camps. During peak tourist season, the number of people staying in public DWNP campsites generally exceeds the design capabilities and carrying capacities of the ablution blocks, leading to breakdowns in the waste disposal systems in the camps. This generally results in raw sewage and other forms of waste water leaking into the Delta. Furthermore, the proliferation of tourist camps and lodges in the Okavango Delta, each with its own septic tank for wastewater collection, increases the potential for groundwater pollution in the area. Findings indicate that there is a problem of liquid waste management in most of the safari camps and lodges in the Okavango Delta. Each unit or accommodation facility has its own septic tank which, in most cases, is not constructed to sufficient environmental standards. In fact, in some camps there are no septic tanks at all, only 'pit latrines' and other holes in the ground for liquid waste disposal from toilets, showers and kitchens. Many of the septic tanks do not have sufficient soakaways and hence fill up quickly. Additionally, as many camps and lodges in the Delta are isolated it is more difficult for these tanks to be emptied regularly, and therefore they often overflow, polluting their immediate surroundings and groundwater in the area, and posing health risks to tourists and tourism employees. Ideally, there should be an arrangement between the North West District Council and the various safari camps and lodges, where all forms of waste from tourism facilities is collected by the council and disposed of in a centralized waste sewage system in Maun (Mbaiwa, 2002).

Many tourist facilities in the Okavango Delta rely on borehole water to supply camp needs, and moreover, discharge waste and sewage effluent into the ground water. This situation creates the potential for the contamination of drinking water supplies. The water table in the Okavango area is high and soils are sandy with a high

permeability. Pollutants can therefore travel much greater distances through the soils.

This fact is illustrated by McCarthy *et al* (1994) who state that the water table in the Okavango Delta is usually less than one metre below the surface during the flood season, and hence it is very difficult to prevent the contamination of groundwater by wastewater. The contamination of the Delta with raw sewage and other chemicals from wastewater could lead to the growth of harmful algal blooms and aquatic weeds. The growth of blue-green algae (*Microcystis sp*) has already been reported in the Okavango system, which becomes toxic under certain conditions. The contamination of groundwater by nitrate and fecal bacteria from septic tanks is a problem in the Delta, particularly in areas where these tanks are located at sites where the groundwater level is very high (10 metres or less below the surface).

8.3.2.4 Feeding of Wildlife in the Okavango Delta

The feeding of wild animals by tour operators is reported to be common in the Okavango Delta, particularly in the Moremi Game Reserve. Wildlife species such as baboons, monkeys, hyenas, jackals, crocodiles and various birds, including fish eagle, are fed in order to attract them to specific areas for closer game viewing experiences for tourists. As a result, many of these animals, particularly baboons, monkeys, jackals and hyenas become a nuisance in tourist camps, eventually posing a threat to the tourists themselves. Often, animal control measures (usually shooting the animal/s) have to be taken to address the problem, and the killing of these animals often has negative impacts upon the wildlife population in the area.

Moreover, as experience from Game Reserves and National Parks throughout Southern Africa (including Botswana) shows, feeding elephants is an extremely dangerous activity. The feeding of elephants around campsites and lodges quickly creates a dangerous situation where the elephant/s begin to associate tourists and their vehicles or tents with such foods. This places tourists at risk as the elephants often start 'attacking' vehicles and destroying tents in an attempt to find food, doing great damage in the process. For example, the Savuti National Park in the Chobe area experienced such problems with several elephants throughout the late 1980s and early 1990s. All of these elephant had to eventually be destroyed, as

they attacked and damaged several vehicles and 'ripped up' campsites, looking for oranges and other foods, after repeatedly being fed by tourists.

The feeding of wildlife results in these animals losing their fear of humans. This places both the tourists and the animals in danger. For example, in the Moremi Game Reserve and the Savuti National Park, there are problems associated with spotted hyena in many of the public campsites. Through the feeding of hyena, they have lost their fear of tourists, and whole packs sometimes come into campsites at night to 'beg' for food. Being opportunistic scavengers, they often carry off food, cold boxes and just about anything that is left lying around campsites at night. They have also been reported to wander into tents if left open, and if cornered in such a situation, would become very dangerous. As they appear 'tame', tourists often try to touch them, placing themselves at risk from an attack by the animal, and more often than not, an attack on a human results in the animal/s being destroyed.

8.3.2.5 Impacts Caused by Bushfires in the Okavango Delta

Fires can be an effective environmental management tool. However, if not used appropriately, fires can also be extremely destructive. Most of the fires that occur regularly in the Okavango Delta pose both a socio-economic and environmental threat to the area. They destroy tourist property (camps and lodges), wildlife, human life and habitat. Although there are natural causes of fires in the Okavango, such as lightning, human activities are becoming increasingly responsible for the fires. In some instances, tourism operators deliberately start fires just prior to the start of the rainy season or the arrival of the seasonal flood. This is based on the assumption that, with the arrival of the rains or flood waters, new, nutritious grass will grow in the burnt area, attracting wildlife grazers such as buck and zebra. The concentration of wildlife in these areas provides opportunities for tourists to easily view large numbers of animals (Mbaiwa, 2002).

A study by Tacheba (2002) on fires in the Okavango Delta reveals that most of the fires in this area occur during the dry season, particularly between the months of August to October. As a result, such fires cannot be associated with natural causes (such as lightning), but rather with human activities. Some of the fires occur along river channels, and hence are associated with land use practices along these

riverine systems. According to Tacheba (2002), the specific causes of fires in the Okavango Delta include:

- Local people in settlements along the river tributaries have a tendency to burn vegetation every year before flooding. This is done to aid the flow of the floodwater (removing plant material blocking channels), and because of superstition which assumes that if the channels and swamps are burnt, there is a higher fish yield during the flood season;

- Tourist operators and commercial hunting operators burn the floodplains in their vicinity to encourage the growth of new grass and attract wildlife into the area; and

- Molapo or floodplain farmers use fires to remove the dry remains from the previous growing season.

The destructive nature of fires, with regards to human property, has also been noted in the Okavango Delta. Both Oddballs and Chitabe Camp have previously been destroyed by fires in 2000 and 2002, respectively, which resulted in significant economic losses. According to Mbaiwa (2002), there are currently no serious measures put in place by the government to combat fires in the Okavango Delta.

8.3.2.6 Expansion of Illegal Settlements

The growth of tourism in the Okavango Delta is associated with the development of illegal settlements in the area. Thabazimbi, located in the central Delta is an example of an illegal squatter settlement that has developed due to the influence of tourism. The settlement was established in 1983, and has an estimated population of approximately 150 to 200 people. The settlement was developed by local inhabitants employed as polers in Gunns Camp who were not provided with accommodation (many of these polers freelanced with other camps as well). Today, residents of Thabazimbi come from various villages throughout the Delta area. According to Mbaiwa (2002), Thabazimbi's population has increased recently as more people are coming into the area to find employment in the nearby tourism

camps. However, the population of this settlement was not included in the 1991 or 2001 Population and Housing Census, and hence are not reflected in the country's population statistics (Mbaiwa, 2002).

As most illegal settlements in the Okavango Delta are not gazetted, there are a number of problems associated with them. Firstly, most of these settlements have no proper waste management systems (including toilets). Both solid and liquid waste is generally just disposed of in the surrounding environment, leading to problems with littering and the contamination and pollution of water sources. The presence of illegal settlements in sensitive areas such as the Okavango Delta leads to the degradation of the surrounding environment. Many of the inhabitants of such settlements bring livestock into the area, destroy the vegetation surrounding the settlement through the clearing of land for subsistence agricultural practices, the overutilisation of wood and other plant resources and over-grazing by their livestock.

8.3.2.7 Waste Management and Water Resources in Maun

According to personal interviews conducted with Sola, Chilume and Mbaiwa between 2002 and 2004, the current waste management and water resource infrastructure in Maun is not sufficient to cope with the large number of people living in the area. Environmental conservation groups in Botswana, such as the Kalahari Conservation Society and Tshomarelo Tikolgo (Environmental Watch Botswana) have established a committee composed of environmental and sanitation experts to assess environmental and health aspects in each village in Botswana. According to the report by this committee, in 1999 Maun was declared the dirtiest village/town in Botswana. Even though Maun is regarded in tourist circles as being the 'gateway to the Okavango Delta' and the tourism capital of Botswana, the town has severe solid waste disposal problems in the form of litter.

Litter in Maun poses health risks, detracts from the town's aesthetic value - which is of significance to the tourism industry, and degrades the environment. A shortage of labour and resources has been blamed for the failure of the local town council to effectively manage the disposal of waste in the town. However, a lack of environmental awareness on the part of Maun residents, and a failure to effectively

implement laws and regulations controlling waste management, can also be blamed for the development of this situation.

With the increase in Maun's population over the past decade, as well as the development of business and industry in the town, the demand for water has also increased dramatically, to such an extent that the current water resources are increasingly unable to meet this demand. Maun relies on boreholes for its water, which are dependent on the areas groundwater table, which is fed by the subterranean seepage of water from the Delta. Hence, a decrease in the size of the Delta's seasonal flood, results in a decrease in the volume of water replenishing the groundwater table in the Maun area.

With the increase in Maun's population, as well as the development and urbanisation of the town over the past decade, the volume of water used each year has risen dramatically. This is placing increasing pressure on Maun's boreholes, which is leading to a major decrease in the level of the groundwater table in the area. The seasonal flooding of the Delta has, in the past, generally replenished the areas groundwater table sufficiently so that these drops in the water table were not permanent. However, since the mid-1990s, the Okavango system appears to be entering a phase (due to tectonic movements and weather patterns) where there is less water entering the Delta. The size of the seasonally inundated areas of the Delta is decreasing, and hence less water is reaching the lower extremities of the Delta, such as the Thamalakane River, which runs through Maun. The shrinkage of the Delta, together with 'channel switching' phenomena, where water that once flowed directly to the Thamalakane River is now siphoned off down other channels and rivers, results in less water reaching the Maun area. For example, up till the early- to mid-1990s, the Thamalakane River flowed strongly almost every flood season, to such an extent that one could take a boat from Maun right up through the Delta. However, since the mid-1990s, the river now receives, at best, a small trickle of water every flood season. This is naturally affecting the groundwater table in the southern Delta and Maun area. With a decrease in seasonal floodwater, the water table will no longer be replenished to its previous levels. This, coupled with Maun's excessive use of the existing groundwater in the area is resulting in the water levels dropping to dangerously low levels. If they are not replenished sufficiently by the seasonal floods, it is just a matter of time before Maun's boreholes dry up. This in

turn places the Okavango Delta under threat, as without borehole water, an alternative source will have to be developed for Maun, such as the extraction of water from the Okavango, through the construction of a dam in the Delta to meet Maun's water needs.

The next section details the current and future threats facing the Okavango Delta and its resources.

8.4 Threats Facing the Okavango Delta

In the comfort of the many lodges and camps that dot the mainland, floodplains and islands of the Okavango Delta, it is all too easy to take the continued existence of this wetland for granted. It is also easy to ignore the countless threats that face this place which, when compared to Botswana's major socio-economic problems such as uncontrolled HIV/AIDS, widespread poverty, drought, declines in the diamond industry, etc., seem relatively minor. The dangers facing the Delta are, however, all too real, and in light of them it seems miraculous that the region has survived in its present state, at all. Its continued survival is by no means guaranteed, as it is largely through, what one observer has termed 'benign neglect', that the Delta has emerged in the latter part of the Twentieth Century into world focus as one of the last remaining pristine wilderness areas on earth (Bailey, 1998).

Although much of the Okavango Delta's environment is as natural as it ever was, the Okavango faces pressure from, not only cattle ranchers, but also several other factors and processes. These include changes to water and sediment flow, pollution and changes to nutrient levels, loss of vegetation, soil erosion and fires. However, the greatest threat to the Okavango Delta lies beyond its fences and national boundaries, as Botswana's neighbours covet the precious commodity of water, which the Okavango carries through Namibia on its journey to the Delta (Bailey, 1998; Mendelsohn and el Obeid, 2004).

In recent times, two major studies have been undertaken to investigate the possibility of large-scale utilisation of Okavango water. The first of these was by the United Nations Development Programme (UNDP) in the early and middle 1970s,

and resulted in the publication of the well known book entitled 'Symposium on the Okavango Delta and its Future Utilisation'. The second was by a private Australian firm Snowy Mountains Engineering Corporation (SMEC) in the mid-1980s, whose brief was to increase the water supply to Maun. Proposals made by the SMEC to dredge the lower reaches of the Boro River were not received well by either local people or international conservation agencies, and the involvement of Greenpeace, and subsequently the World Conservation Union (IUCN), resulted in these proposals being provisionally shelved. However, as water is such a scarce commodity in Botswana, the Delta will continue to be an area of interest to developers, and it is likely that in the long term there will be some sort of compromise between the requirements of the ecosystem and the needs of the people.

It must, however, also be noted that since the late 1980s and the development of tourism in the Okavango Delta, the conservation/preservation of the Okavango has gained much importance with the Botswana Government. Any negative developments in the Delta, such as the large scale extraction of water from the system, or the construction of dams/hydro-electric schemes, would seriously impact upon the Delta's tourism industry, and hence the amount of revenue accruing to the government/economy from this industry. As such, the Botswana Government is far more committed to ensuring the long-term protection of the Okavango than it was in the 1970s and early to mid-1980s. At present, Namibia is investigating the feasibility of water abstraction from the Okavango River to supply its capital city, Windhoek, with additional water. The impact of this is currently under investigation. Ultimately, it is to be recognised that developments outside of Botswana such as abstraction by Namibia or agricultural development in central Angola may have a bigger impact on the Okavango Delta than any activities carried out within the Delta itself (Ellery and Ellery, 1997).

Today, within the Delta itself, the biggest pressures are from the major towns, such as Maun, Seronga and Shakawe, and other areas of dense settlement. This is where relatively large volumes of water are used, effluent may find its way into the river, and plant life is destroyed as a result of fields being cleared, the collection of building materials and fuel wood, and overgrazing (Mendelsohn and el Obeid, 2004).

Little water is presently extracted from anywhere in the Okavango River Basin, which is surprising as much of the entire Basin, as well as the countries that the Basin lie in, are so dry. No irrigation schemes pump water out of any of the rivers in the Angolan part of the Okavango Catchment, and the only known dam is a small one (about 40 hectares) on a tributary of the Cuebe at Menongue. None of the towns have bulk water supplies from the rivers, and it will hopefully still be some years before pumped, treated water is provided from the rivers of the catchment to the towns. For example, the water supply system to Menongue was completed in 1974, but stopped working in 1977. Recent attempts to re-establish the scheme have failed because most residents did not wish to pay for water (Mendelsohn and el Obeid, 2004).

Namibia, on the other hand, which is at the best of times a dry country with few water resources of its own, has had its eye on the water of the Okavango River for some time. The country suffered a severe drought for half of the 1990s, which eventually reached crisis proportions, and faced with pressure to provide its capital, Windhoek, with water, the Namibian Government has been forced to consider its options. The Okavango River is a tempting source of water which could feed the capital in a cost-effective way, and although there has been considerable outcry, Namibia has few alternatives. Desalinisation plants and pipelines to carry water from the coast are simply not financially viable options (Bailey, 1998; Mendelsohn and el Obeid, 2004).

Presently, only about 22 million cubic metres (Mm^3) (equivalent to 0,022 cubic kilometres) are now extracted from the Kavango River each year in Namibia. Approximately 74 percent of this supplies agricultural irrigation schemes, 15 percent is taken by rural people for their livestock, and 11 percent is used for Rundu. The 22 Mm^3 amounts to less than 0.25 percent of the total average volume of water that enters Botswana at Mohembo. Even during years and months with low flows, the volumes pumped are relatively small. About 1100 hectares are now farmed under irrigation in the Caprivi Strip. However, new schemes are being developed to irrigate another 7400 hectares. Once implemented, this would raise the total amount of water extracted from the river to about 134 Mm^3 per year or 1.4 percent of all water that leaves Namibia. The proportion remains small but much irrigation would be pumped at the start of the growing season in early summer when the river is at its

lowest, and substantial proportions of water could be extracted during years when flows are unusually low (Mendelsohn and el Obeid, 2004).

More worrying than this, however, is Namibia's plan to construct a pipeline to carry water from the Okavango to the Grootfontein pipeline, and so provide Windhoek with the balance of its water requirements. Opinions regarding the effect that this water capture will have on the Okavango system have varied widely, from panic-stricken speculations that the Delta would dry up within a year, to views that if done at the right time of year and at a sustainable rate, the pumping will have little effect on the Delta (Bailey, 1998).

Additionally, Namibia's Mines and Energy Minister, Mr. Jesaya Nyamu announced the possibility of the development of a new power project on the Kavango River, in the form of a hydropower plant, for the Western Caprivi region to the tune of US$ 300 million, in 2000. It is to provide 20 to 30 megawatts (MW) of electricity to the area. According to the Minister, approximately 1.4 square kilometers will be inundated by the hydropower plant, and 75 huts, 15 houses and four campsites in the area will be flooded. The estimated evaporation will be about 1.5 million cubic metres and will have 'a minor impact' on the flow of the Okavango Delta in Botswana, according to a resource study. However, the development of the project is still in its infancy, and Namibia has not yet been given the 'go ahead' as discussions with Botswana and Angola, through OKACOM, which share the river, are still being held (Rothert, 2000).

Botswana extracts little surface water from the Okavango River. There is only one small irrigation scheme at Samochina, and water is piped to villages in and around Mohembo, Shakawe and from Sepopa down to Gumare. In total these add up to about 2 Mm^3. Small additional amounts are taken directly by livestock and for domestic purposes. Water supplies to Maun, Sehithwa, Tsau and Shorobe are all from underground sources replenished by seepage from the Delta. Botswana therefore probably uses less than 0.1 percent of all water entering the Delta each year (Mendelsohn and el Obeid, 2004).

Perhaps more concern has been voiced about possible changes to patterns and levels of water flow than any other threat. These fears have come to the forefront

since the mid-1990s, with Namibia's proposed water extraction plans. Similar fears are reflected in the common claim that the lack of high floodwaters during the past two decades was due to the alleged construction of dams in Angola and the Caprivi Strip (which are completely unfounded). However, fears of reduced and changed patterns of flow, regardless of the cause, are indeed warranted as so much of the river system's functioning depends on regular strong flows and flooding that, for example, carries sediment into the Delta and enables fish to breed in floodplains. The variety of habitats in the Delta is in fact directly the result of changing water levels, mainly because different plant communities occupy different flood zones (Mendelsohn and el Obeid, 2004).

The whole Okavango River system is characterised by low nutrient levels. Greater levels of nutrients, for instance in the form of nitrogen and phosphorous fertilisers washing out of large agricultural projects, would lead to more biological production, particularly in the Delta where the extra nutrients would accumulate. Beds of papyrus might expand, causing channels to close more quickly and rapid changes to the distribution of water. It is also likely that the occurrence of Kariba weed (*Salvinia molesta*) would increase. This could have severe impacts on the Delta, since the weed forms dense mats covering large surface areas of calm water. The mats cause a reduction in the water's oxygen content, which would have disastrous consequences for all life in the Delta (Mendelsohn and el Obeid, 2004).

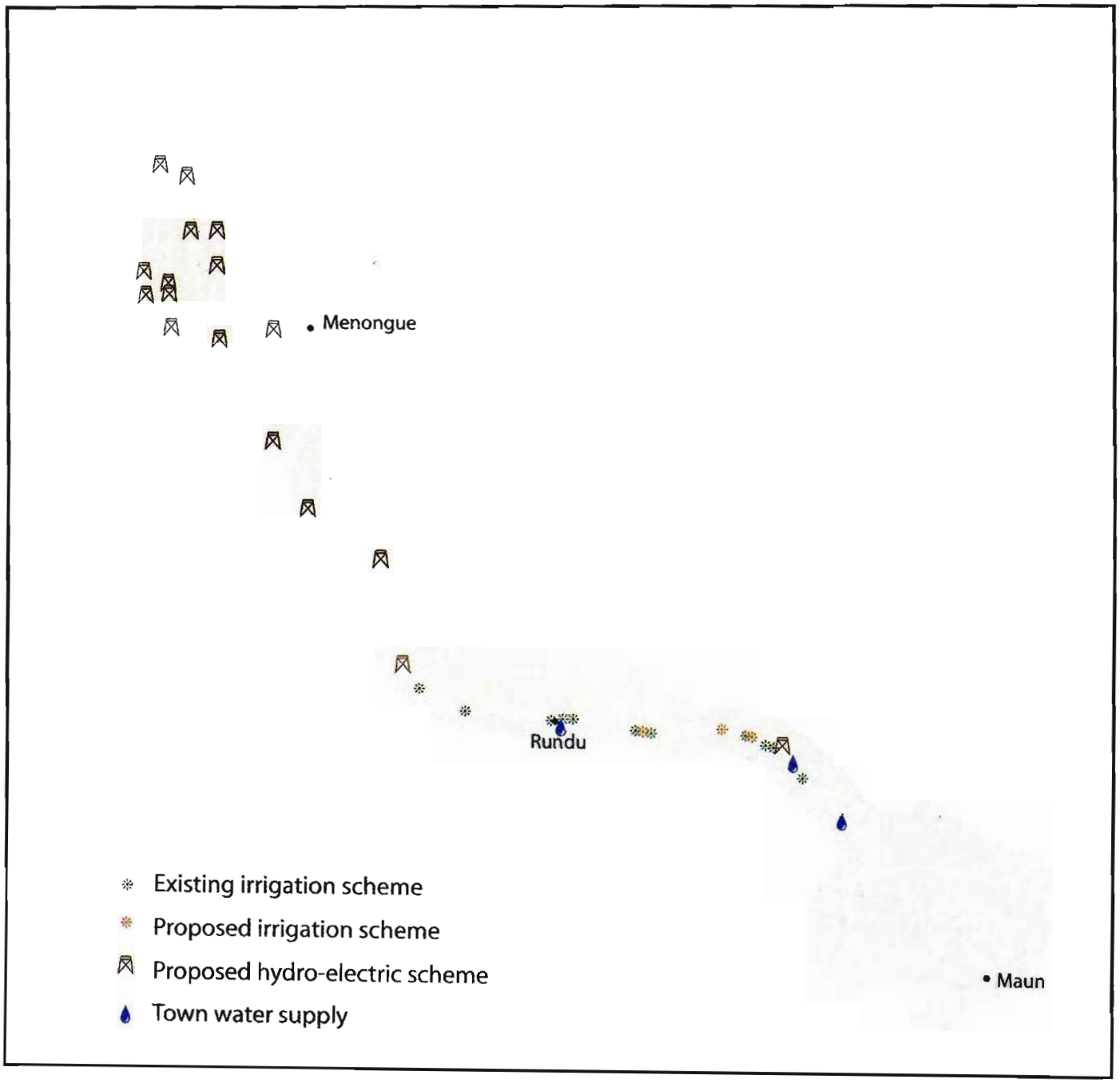
Higher levels of other chemicals such as calcium, magnesium, sodium and silica, would probably accompany nutrient increases. In this case, a severe reduction in papyrus could result from concentrations of these harmful solutes. Patterns of sediment accumulation and the way in which water is distributed in the Delta could change, habitat diversity may decline, and the Delta might gradually transform, in the worst case scenario, from a freshwater to a saline wetland. Levels of pollution from urban effluent and other sources are still too low in the Okavango to do any serious harm, but every effort needs to be made to safeguard the river from these and other toxic chemicals, such as pesticides. It is widely agreed that Botswana's use of endosulphan to kill tsetse flies reduced fish stocks in the Delta between the 1970s and the early 1990s (Mendelsohn and el Obeid, 2004).

Angola considered the construction of hydroelectric schemes at 17 sites during the 1960s (Figure 8.1), but fortunately none of these have been developed. However, Namibia's announcement in 2003 that it intended to develop a similar scheme near Popa Falls (Figure 8.1) elicited much alarm and criticism. The most important environmental fear to emerge during an initial impact assessment of the Popa scheme was the possible reduction in sediment movement because a dam would slow the speed of water flow. Sand washed down the river accumulates and raises bed levels in the Delta's channels, and this leads to channel switching once water levels rise. The changes result in new areas being flooded, again contributing to the maintenance of flood levels, plant communities and animal life. Any serious changes to the natural processes of channel switching and flooding in the Delta would be disastrous for the wetland and the plant, animal and human communities it supports (Mendelsohn and el Obeid, 2004).

Lastly, the area surrounding the southern Kavango River valley has lost most of its natural plant life, the larger Angolan towns in the catchment area are surrounded by swathes of land cleared for crops, while woodlands surrounding the larger towns in the Delta and Panhandle are increasingly becoming barren from over-utilisation for building materials and fire-wood. There is also an increasing problem in the Delta with the over-utilisation of real fan palm fronds for the making of basketware for the tourism industry and international market. In some areas, particularly on the western side of the Panhandle and Delta, there has been a considerable local decline in the number of real fan palm trees. Mekoro building has also led to considerable demand for jackal-berrie, sausage, and mangosteen trees, which are the traditional woods used to make the canoes. In some areas the most sought-after trees are simply no longer available in suitable sizes. A local entrepreneur has developed fibre-glass mekoros that are now in great demand by local polers and lodges in the area, which will hopefully decrease the number of trees harvested to make mekoros, particularly for use in the tourism industry.

Many trees have also been killed for fuel wood and charcoal production in Angola, while soil erosion has increased throughout the Basin as a result of land clearing, the over-grazing of pastures by livestock and the creation of paths to the water. It is hard to argue that vegetation should be preserved if rural farmers need crops,

Figure 8.1: Existing and Proposed Use of the Okavango River's Water



Source: Mendelsohn and el Obeid, 2004.

grazing and fuel, but care should be taken in promoting policies and practices that lead to the unsustainable use of these resources. It is often argued that social and economic conditions can be improved by rural development, especially through small-scale farming. However, farming can only be profitable in the Basin as a whole under exceptional circumstances, and most small-scale farming practices are damaging to the environment. More importantly, most people will remain poor as small-scale farmers because farming conditions in the Basin are so limited and the lack of markets restricts the selling of surplus produce. It is of little surprise then that so many people turn their backs on farming and rural livelihoods and poverty by moving to the larger towns (Bailey, 1998; Mendelsohn and el Obeid, 2004).

Taken individually, most of these different pressures have, presently, only a minimal effect on the Okavango. However, the cumulative impacts may be considerable, especially along the Namibian section. Densities of people and cattle are highest here, most natural vegetation has been lost, and soil erosion is greatest. There are also several agricultural schemes that draw off water and from which pollutant chemicals and nutrients may be washed into the Okavango. All indications are that such pressures will grow as Namibia increasingly aims to use the river for irrigation, urban water supplies and hydroelectric power. It is also ironic that it is the Okavango Delta and Botswana that will bear the brunt of the impacts of Namibia's actions (Mendelsohn and el Obeid, 2004).

A positive development in the future management of the Okavango Delta, and the Okavango River Basin as a whole, was the creation of the Permanent Okavango River Basin Water Commission, or OKACOM, in 1994.

8.5 OKACOM

OKACOM is the Permanent Okavango River Basin Water Commission, which is an inter-governmental river basin institution formed by the three Basin States – Angola, Botswana and Namibia, in September 1994 – to ensure that the water resources of the Okavango River watercourse system are managed in an appropriate and sustainable manner. OKACOM consists of three Commissioners from each of the three Basin States, who are high ranking civil servants from the government

ministries most closely involved in natural resource management. There is no permanent OKACOM office, as the leaders of the delegation originate from the water institutions in each country. The Commissioners meet to direct the activities of OKACOM and each country takes it in turn to organise and host meetings. The percentages of the Okavango catchment in each country are as follows: Angola (28 percent), Namibia (30 percent), Botswana (39 percent), and Zimbabwe (4 percent) (OKACOM, 2004).

OKACOM was established to oversee the management and development of the water resources of the Okavango River system, which is a complex task as the individual rights of each country must be considered, and the existing instruments of international water law regarding the use of water resources must be observed. The Commission monitors existing activities along the river, plans for future developments, and advises their respective governments on these issues (OKACOM, 2004).

8.5.1 An Integrated Management Plan for the Okavango Basin

OKACOM's next major task is to develop and implement a management plan for the whole river to ensure that:

- Each country receives a reasonable and equitable share of the benefits of the water and other natural resources in the Basin;
- All river resources are used sustainably and not over-used or polluted; and
- River stakeholders are aware of their rights and responsibilities in managing the Okavango River (OKACOM, 2004).

OKACOM negotiated funds with the Global Environment Facility (GEF) to carry out an Environmental Assessment (EA) in the Basin. This will lead to the development of an integrated management plan for the Basin. A Project Management Unit (PMU) under the guidance of the Okavango Basin Steering Committee (OBSC), OKACOM and other co-operating partners, will be set up in Luanda, Angola, to manage the

project (OKACOM, 2004).

Stakeholders in the project include individuals, groups or organisations who have an interest in the river:

- People who gain their livelihoods directly from the river;
- Local and central government officials responsible for managing the natural resources and maintaining services in the area;
- Non-governmental organisations and community-based organisations working with local communities;
- Local businesses using water and other resources for their enterprises;
- Tourists who visit the Basin to enjoy the spectacular scenery and wildlife; and
- The scientific community studying the unique eco-systems of the Basin (OKACOM, 2004).

OKACOM recognises the importance of considering stakeholders in the development of a management plan, as the people living and working along the river are best placed to provide vital information about the river resources, how they may be changing and how those changes are affecting their lives (OKACOM, 2004).

As such, two groups seem best placed to spearhead and promote a unified view of the Basin as a healthy unit. The first is the international community, perhaps through donors who formulate assistance to promote the sustainable use of natural resources. The second is the government and tourism industry in Botswana, where investments and profits from the use of the Okavango have been the greatest. Even though Botswana has made mistakes, it has accumulated considerable experience in the wise management of the river and its resources, and it should consider sharing its experience and benefits with Namibia and Angola. Botswana also has the

most to lose if the Okavango in its present state is lost (Mendelsohn and el Obeid, 2004).

8.6 Summary and Conclusion

In Botswana there are generally 'screams of horror' whenever an irrigation scheme, pipeline or dam is planned. By contrast, viewpoints upstream are such that most people in Angola and Namibia may not care how much water reaches the downstream Delta. Both perspectives, at either end of the Basin need to change. Most thoughts on co-operation between Angola, Namibia and Botswana concentrate on how water can be shared, which is to be expected. However, it would also be useful to improve the debate on how benefits can be shared. Most importantly, there is a need for a shift away from the assumption that most benefits will come from agriculture and rural development (Mendelsohn and el Obeid, 2004).

This chapter provided an appraisal of the socio-cultural and environmental impacts of the international tourism industry in the Okavango Delta. It also presented the current and future threats that face the Okavango Delta, and the Okavango River Basin as a whole. The next chapter presents a detailed analysis of the major issues dealt with in this dissertation, and provides recommendations and conclusions on the role of tourism in natural resource management in the Okavango Delta region.

8.7 Summary of Issues and Concerns Facing the Okavango Delta and its People

Nils Odendaal, from the Namibia Nature Foundation, together with OKACOM, Sida, the Kalahari Conservation Society and the Rössing Foundation have developed the 'Every River Has its People Project' which focuses on the entire Okavango River Basin. The purpose of the project is to identify some of the major problems and threats facing the Okavango River Basin, and propose solutions to these issues. According to the project, the main issues currently facing the Okavango Delta include:

Problem: Declining River Health

Causes

- Silting, erosion and dirty water (turbidity)
- Pollution – Urban, Local and Chemical
- Decline in water volume
- Channels becoming blocked and in some cases drying up

Suggested Solutions

- Protect riverbanks and riparian forests
- Avoid cultivation too close to the riverbanks
- Avoid cultivation on dunes facing the river
- Protect flood plains and reed banks lining the river
- Dredge the river and sell the sand to builders
- Re-open channels blocked by vegetation by protecting hippopotamus populations (Odendaal, 2004).

Problem: Declining Fish Stock and Size

Causes

- Too many people fishing
- Too many people using inappropriate fishing methods, e.g. mosquito nets
- No protected areas for fish breeding
- No local control over outsiders (e.g., no licenses for fishing in the Okavango)
- High-powered boats disturb breeding areas
- Previous wetland areas are now dry

Suggested Solutions

- The encouragement of appropriate and traditional fishing methods

- Development of monitoring system and adaptive management
- Local control
- Enforcement of fishing regulations
- Need protected areas for fish breeding stock
- Protect floodplains for fish breeding
- River needs to be zoned for different uses
- Guidelines and regulations for boat and river use

Problem: Declining Wildlife and Lack of Benefits

Causes

- Problem animals causing human, livestock and crop losses
- Loss of wildlife through poaching, habitat loss, fencing
- Conflict between protected areas and neighbouring communities
- Insufficient benefits from wildlife and protected areas
- Insufficient local control over management and use of wildlife

Suggested Solutions

- Sustainable management and harvesting methods which include community based approaches, and devolution of rights over resource management (i.e., rights over resources)
- Benefits from wildlife to appropriate level so as to offset the cost of living with wildlife
- Rapid response strategy for problem animals that empower people to respond
- Strategy to reduce problem animal conflicts
- Monitoring and adaptive management

Problem: Declining Productivity of Rangeland and Plants

Causes

- Loss of riparian vegetation (riverine forests)
- Loss of reeds and other aquatic plants (e.g., water lilies)
- Too frequent and uncontrolled fires
- Overgrazing
- Local farmers have insufficient control over management of rangelands
- Deforestation
- Loss of trees/plants used for veld products/wild foods

Suggested Solutions

- Protect riparian vegetation along the river banks
- Sustainable management and use of natural resources through community based approaches and devolution of rights (i.e., rights over resources)
- Enforcing of existing traditional and legal mechanisms, rules and regulations
- Improved recruitment, cultivation and propagation of veld product/wild food plants
- Empowerment of traditional authorities, developing awareness and capacity with appropriate skills

Problem: Lack of Rights and Appropriate Institutions

Causes

- Insufficient group rights over resources and land at relevant levels of management (e.g., for reeds, woodlands, grazing, wildlife)
- Lack of empowerment of traditional authorities to enforce rules and regulations
- Lack of co-ordination between government agencies to allow for integrated resource management

Suggested Solutions

- Sustainable management and use or natural resource community based approaches and devolution of rights to appropriate local institutions (i.e., rights over resources)
- Establishment of Community Trust / Conservancies / Water Point Committees / Forest Committees
- Traditional approaches to be incorporated into national approaches
- Community empowerment to co-ordinate support agencies
- Relevant policies for integrated communities based natural resource management harmonised by government agencies

Problem: Insufficient Water for People Living Away From the River

Causes

- Groundwater levels dropping (boreholes drying up)
- Insufficient boreholes (water supply)
- Not enough provision and maintenance of water infrastructure (pumps)
- Insufficient capacity to maintain water pumps and boreholes

Suggested Solutions

- Improve veld/rangeland management so as to improve water infiltration
- Improve supply of water (pipe and borehole), linked to water and rangeland management strategies for sustainable use
- Increase local capacity by providing training
- Introduce appropriate financing mechanisms
- Improve co-operation between government departments, NGOs and other service providers for sustainable community development

Problem: Social Concerns

Causes

- Conflict between different land uses
- Poor relations between inland and river residents
- Angolan refugees exerting pressure on land, natural resources and social infrastructure
- Resource over-utilised without permission (outsiders)
- Settlement encroachment
- Communities not committed to help themselves
- Alcohol problems in communities – apathy, disinterest
- Lack of education, knowledge and expertise
- Lack of information on traditional laws
- Legal restrictions on access to resources

Suggested Solutions

- Community based approach to manage and control access to resources
- Develop guidelines for harvesting of natural resources
- Develop incentives and opportunities for marketing
- Promote co-operation between inland and river residents
- Empower traditional authorities
- Safari operators and support agencies to train communities and/or employ local people
- Community involvement in formation of laws and local strategies on natural resources and management practices
- Facilitate sustainable use and conservation

CHAPTER NINE

Evaluation, Recommendations and Conclusions

9.1 Introduction

The Okavango Delta is faced with many developmental challenges. The creation of employment for the local population, the sustainable use of the Delta and its resources, the development of the local agricultural industry, the continued growth of the tourism industry, and striking a balance between the conservation/preservation of the Okavango and meeting the water requirement needs of Angola, Namibia and Botswana's growing populations are amongst the key concerns present in the area.

In this chapter, an overall assessment of the research findings is presented in order to understand the role that tourism plays in utilisation and management of natural resources in the Okavango Delta. This is done with reference to the conceptual framework presented in chapter four, and the theoretical framework, focusing on the concepts contained within the theories of globalisation and development theory, in chapter three. The challenges facing the Delta and its resources are explored, and recommendations for the sustainable management of the Okavango system are presented.

9.2 Approaches to Tourism Impacts

In adopting an interdisciplinary approach to the understanding of tourism impacts and the structures regulating natural resource management, the study did not label from the vantage point of methodological preferences within a discipline. In this respect, although the study utilised quantitative empirical data, the approach was equally qualitative in nature. As Allan and Skinner (1991) highlight, of all methodological distinctions, it is the quantitative/qualitative one which has proved most durable. The two main criticisms of qualitative research are that they are impressionistic and non-verifiable (Allan and Skinner, 1991). With reference to the

understanding that it is impressionistic, Allan and Skinner (1991), argue that this will possibly only occur in the early phases of the research when the researcher is open and sensitive to new ideas, suggestions and relationships. With regard to verification, methods of triangulation were employed to achieve this. Apap (2000), on the other hand, criticises quantitative research as adopting a dehumanised approach.

The option whether to select one in preference to the other or to use a complementary approach was deliberated. In light of the above, the perception adopted in this study was that no research within the field of social science can be entirely quantitative or qualitative. This research is aligned to the belief that neither method takes precedence over the other. This is in line with the views of Jankowicz (1991), Jayarathe and Stewart (1995), and Waghid (2000), that quantitative and qualitative research approaches should be regarded as complementary to each other and the broader social discourse of research. Therefore, the research conducted was an attempt at achieving complementarity for both the quantitative and qualitative methods by virtue of the research design that was utilised. Jankowicz (1991) states that the research problem and its purpose determine which methods and techniques are most suitable.

In the study an attempt was made to firstly, examine the quantitative empirical data, and secondly, to elicit the socio-economic and environmental impacts of tourism through a more qualitative approach. This study therefore required both quantitative and qualitative research techniques in that it involved the study of human interaction with the geographical environment, and hence was not numeric or consistent.

As such, multi-modal approaches and methods were utilised in the collection and analysis of the data. This yielded motifs that were of relevance in conceptualising the structures and mechanisms which underlie existing Third World economic development problems, the processes that aid and abate regional underdevelopment, and local transformations resulting from the global tourism industry. The insights helped reveal the complexities inherent in the use of tourism by Third World governments as a development strategy, operating within both local and global contexts. There is no universal model for tourism growth and local development. Since every society, community and locality has a unique set of

circumstances, the impacts of tourism will not be homogenous, nor will the measures available to minimise such impacts.

9.3 Globalisation and the Growth of Tourism

As discussed in the theoretical framework in chapter three, tourism is one of the most obvious forms of globalisation (Held *et al*, 1999). Meethan's (2001) description of globalisation as being characterised by increasing economic, social and cultural interconnections, that exist across national boundaries, and which are increasingly impacting upon the daily lives of people around the world is valid for this study. Globalisation has provided the context to facilitate the development of international tourism in previously isolated Third World locales such as the Okavango Delta, while alternatively, tourism itself has facilitated the spread of the globalisation phenomenon. This is in keeping with Ugarteche's (2000) view that globalisation is "...the growth in an economic activity (such as tourism) that transcends national and regional boundaries (p. 75).

Coupled with, and as a response to the rise of globalisation and its resultant disintegration of national boundaries and spread of goods services and people to previously isolated areas, has been the use of tourism by Third World governments and economies as a development strategy. This has significantly facilitated the growth of international tourism in rural, underdeveloped destinations such as the Okavango Delta since the 1980s.

9.4 Tourism as a Development Strategy

Research into the motivations for the growth of tourism in Third World economies led to theorising, which focused primarily on the use of tourism as a development strategy. Third World tourism growth can be conceptualised as a consequence of the rise of modernisation as a form of social order and conceptualising the world, the movement of society through the post-modern period, and the resultant development of the globalisation process. These changes in societal structures facilitated the demand by First World travellers for 'new and exotic' tourist destinations, effectively turning rural, previously isolated areas and cultures into

commodities to be sold in the global market place. As such, the growth of international tourism provided the opportunity for less developed countries to carve out a niche in the global market. This is possible as the rise of globalisation has provided a means of internationally promoting their many and varied tourism assets. Hence, tourism has/is developing in even the most isolated and seemingly detached from the global economy, regions as a form of economic growth and development (Ugarteche, 2000; Meethan, 2001).

It was during the 1980s that tourism as an actual form of development first appeared in the African economies. As noted in the theoretical framework in chapter three, in the first stages of its global spread, tourism, as with many other forms of economic development, may have appeared as a path to modernity for many of the Less Developed countries. Unlike other forms of development, tourism has one major attraction to Less Developed economies, it is an industry 'without chimneys' which requires relatively low capital input (Harrison, 1994). Additionally, tourism is a means of earning foreign currency and therefore, it may be considered an 'invisible' export earner and a relatively low-cost means of balancing payments (Harrison, 1997; Archer and Cooper, 1998; Meethan, 2001).

Most developing economies, including the Okavango Delta, have approached the use of tourism as a development strategy from a modernisation perspective. As discussed in chapter three, modernisation assumes that development occurs on a linear or evolutionary basis, and that given the right conditions, less developed societies can 'catch up' with the developed world and this should be encouraged through strategic development organised at a state level. In regards to tourism, this form of development assumes, for example, that the building of large hotels or resort areas will act as a catalyst to promote some form of 'trickle down' effect, which will be of benefit to the overall economy. Additionally, the development of modern infrastructure, such as airports, roads, etc., will also benefit the economy as a whole (Meethan, 2001).

This 'modernisation approach' to development is clearly evident in the Okavango Delta. As noted in the research findings in chapter six, the Botswana Government has largely concentrated its efforts, with regard to the development of the tourism industry, on the development of the necessary infrastructure to support the industry.

For example, the government has gone to great lengths to encourage the development of up-market, high-cost tourism resorts and facilities. The government has also used the profits from the industry to develop new, and greatly improve the existing, infrastructure in the Okavango area, such as the road network and airports and airstrips. As such, the Botswana Government appears to embrace the 'modernisation view' that regional economic development will result from the development of modern infrastructure.

There are obviously certain problems in this scenario. Firstly, there is the possibility that any profits accrued will leak from the national economy overseas. Secondly, economic developments may only benefit existing national or more localised elite. In both cases the economic relationship will be uneven, if not exploitative, and the indigenous economy may suffer as a result of catering to the needs of the developed world (Meethan, 2001).

Such problems with this approach to development are also clearly evident in the Okavango Delta. As presented in the research findings in chapter six, most of the tourism facilities and associated tourism infrastructure are characterised by foreign involvement and ownership, which has several implications for the industry and the local economy.

Firstly, the dominance of the tourism industry in the Okavango Delta by foreign tour operators and companies has resulted in the repatriation of revenue from Botswana to foreign countries. In fact, it has been estimated that Botswana retains less than 29 percent of the total revenue generated from tourism in the country. Although tourism is contributing 6 percent to Botswana's Gross Domestic Product (GDP), which is the second largest contributor after diamonds, failure to retain a larger proportion of this revenue from the industry does not auger well with sustainable economic growth in a developing country such as Botswana. This fact indicates that urgent measures need to be taken to involve local investors (in a significant and meaningful way) in the tourism sector in the country (Mbaiwa, 2002).

Secondly, as the Okavango Delta's tourism industry is dominated by foreign involvement and high-prices, the area is also characterised by tourism enclaves, which are both inaccessible and bring little benefit to the local population. This

situation also significantly contributes to the level of revenue repatriation by foreign parties.

Within enclave tourism, backward linkages are generally very weak, particularly if the enclaves are controlled by multinational interests. This is part of the reason why tourism development in the Okavango Delta has failed to promote agricultural development and local manufacturing ventures. Agricultural/food and manufactured products used in the tourism industry in the Okavango Delta are generally imported from South Africa, and hence, the industry has not facilitated the development of economic linkages with other local sectors, nor has it promoted the envisaged 'trickle down' effect which is meant to benefit the overall economy. In addition, within enclave tourism, any foreign currency generated tends to have only a minimal effect upon the economy of host nations as many payments, etc., are done in the tourists home country, and payments received in the tourist destination are often transferred to the home countries of the foreign tourism operators. Cater and Lawman (1994) note that in a situation where the headquarters of multinational tourism companies are in developed countries, there is a considerable reduction in the net tourism receipts in Third World economies. The nature of Botswana's tourism industry has led to much of the revenue generated from tourism being repatriated, resulting in only a minimal share being retained in the country.

A second approach to the use of tourism as a development strategy has more recently been incorporated in the Okavango Delta's tourism industry. This is the concept contained within neo-populist development, with its focus on a bottom-up approach to development involving local people from beginning, and post-modernism, as discussed in the theoretical framework in chapter three. The recent implementation of the Community Based Natural Resource Management (CBNRM) programme and the development of Community Based Tourism in the Okavango Delta is in line with this approach to development. Such approaches to the development of tourism and using tourism as a development strategy, although fraught with their own problems, which stem from grass roots development, show more suitable characteristics than does conventional, state-instigated and foreign dominated, forms of tourism.

As such, it is only recently that the Botswana Government has realised that the present, elitist and foreign dominated forms of tourism present in most Third World countries, does little to bring about local development and environmental protection. This realisation has resulted in the government starting to formulate alternative approaches to tourism growth and local development, such as the implementation of the CBNRM programme. Even so, foreign domination and 'top-down' development still dominate the areas industry.

9.5 The Okavango Delta's Tourism Industry

Tourism in the Okavango Delta has rapidly expanded in the last two decades. The Okavango Delta is currently one of Botswana's leading tourist destination areas, mainly because of the rich and varied wildlife resources it sustains and its scenic beauty. Like other wetlands in the world, it provides good breeding areas for a wide range of species of wildlife, birds, amphibians, aquatic mammals and fish. Tourism activities in the Okavango Delta include consumptive (hunting, fishing) and non-consumptive (photographic) resource use activities. Findings in this study have shown that approximately 65 000 tourists visit the Okavango Delta annually, with the majority of tourists coming from North America, Europe, New Zealand/Australia and South Africa (Mbaiwa, 2002).

Tourism contributes approximately six percent to the country's GDP, and it is the dominant economic activity in the Okavango Delta region. Tourism profits are an important source of income for the Botswana Government. However, there are also a number of serious problems associated with the tourism industry in the Okavango Delta, and the country as a whole.

Firstly, as tourism is the dominant economic activity in the Okavango Delta region, the Botswana Government has gone to great lengths to promote the development of the industry, and substantially upgraded the country's travel infrastructure and accommodation capacity. It is also very receptive to joint venture proposals. Lease agreements for hospitality enterprises such as safari lodges have been relaxed, as have building and other restrictions. Tourism profits have led to economic growth, which is of great benefit to the state, but it has also resulted in unequal regional

growth, with little emphasis placed on stimulating non-tourism activity. The regions high level of dependency on tourism leaves the Okavango Delta extremely vulnerable to international tourists and foreign interests, whose chief concerns are increased economic development through the commodification of environmental and cultural heritage for tourist consumption (Torres, 1996).

In most developing tourism regions, including the Okavango Delta, the potential for tourism to balance regional development has not been realised, and as in the Delta, tourism even leads to the widening of regional disparity. This can be attributed to two key factors. Firstly, in many underdeveloped regions, the dominant mission of the tourism industry is to generate foreign exchange. The impact of tourism on regional development is generally not on the government's agenda, with "an increase in the 'national cake' being viewed as far more important than questions of how the 'cake' might be spatially made and distributed" (Briguglio *et al*, 1996, p.108).

Secondly, the development of tourism in destination areas is often linked with the promotion of the local industries such as manufacturing, processing and agriculture, as well as the wholesale and retail sectors. While the retail and wholesale sectors are relatively well established in Maun, tourism in the Okavango Delta has been unable to promote both agricultural production and manufacturing industries. As a result, most of the goods used in the industry are imported from South Africa. Insignificant amounts are derived from Botswana. This implies that tourism in the Okavango Delta is not at all self-sustaining (Mbaiwa, 2002).

As noted by Mill and Morrison (1985), in less developed countries, the lack of linkages from the tourism industry with other industrial sectors within the economy poses a major problem. Through the development of a link between the tourism industry and other service and industrial sectors, a country can decrease its dependency on imports and minimise leakages of income out of the economy. The economic feasibility of numerous industries ranging from handicrafts to local agricultural production must be investigated, and those industries that have potential should be encouraged and supported through the provision of grants and loans. Quotas and tariffs should also be placed on imported goods that can be produced locally, which will provide more incentives for the use of local goods and services.

According to Torres (1996), a wide variety of production, structural, policy, financial, information and infrastructure constraints contribute to the lack of formation of linkages between tourism and other economic sectors in Third World tourism destinations. For example, the Okavango Delta presently lacks the infrastructure and local marketing outlets to support the development of a successful local produce industry. The most common constraints preventing the development of linkages between tourism and agriculture is the inability of subsistence farmers in the Delta to produce consistently high quality fresh produce. This is due to the harsh climatic conditions in the region, as well as a lack of knowledge by the local farmers of commercial farming methods, and lack of support from the government. There are no significant linkages between local agriculture and tourism in the Okavango Delta. Hence, the growth of tourism in this region has led to a significant increase in the need for food imports. This has damaged the local agricultural industry by completely eliminating the need for local goods, and hence alienating local agriculture from this sector. The need for food and produce imports also drains foreign exchange reserves.

Thirdly, investigations were conducted regarding the primary beneficiaries of tourism in the Okavango Delta. The perceptions by local populations in the Okavango Delta, and foreign employees in the tourism sector, as to the major beneficiaries of Third World tourism development, differ greatly. Local residents view foreign tourism employees and owners, and the Botswana Government, as the recipients of benefits resulting from tourism growth. Foreigners, who are involved in the industry on the other hand tend to view the local population as the major beneficiaries, through the provision of employment opportunities and infrastructural development, brought about by tourism growth (Ndubano, 2000).

This study, however, reveals that it is the foreigners who dominate the Okavango Delta's tourism industry, that benefit the most from the sector's development. Foreigners receive more income from the ownership of tourism related businesses, and employees receive higher incomes than their local counterparts. A large proportion of tourism-generated income is also repatriated out of the country by foreign owners. Martha (1993) has argued that, in addition to tourism employment being seasonal and part-time, the industry creates low-quality and low paid jobs that do not help workers, especially the women, to escape from their nearly unbreakable

cycle of poverty. Also, tourism employment offers few or no benefits, provides very little advancement possibilities, and requires only low level, or no entry skills.

Lastly, even though findings indicate a significant expansion of the tourism industry in the Okavango Delta over the past decade, there have been no studies conducted to determine the carrying capacity of this tourism development, particularly in relation to visitor numbers, infrastructure development and the activities of tourists. This shows that tourism development in the Okavango Delta is not in line with the considerations contained within the concept of sustainable development.

9.6 Institutional and Policy Framework in Tourism and Natural Resource Management in the Okavango Delta Region

Since independence in 1966, the protection and management of wildlife and other natural resources in the country has been carried out from a centralised source. The institutional set-up of the government in Botswana, with regards to natural resource management, is fragmented into various government ministries and departments. The four key ministries identified are the Ministry of Agriculture, the newly formed Ministry of Environment, Wildlife and Tourism, (old Ministry of Commerce and Industry), Ministry of Local Government, Lands and Housing and the Ministry of Mineral Resources and Water Affairs.

In the Okavango Delta, the primary government departments and institutions which are responsible for, and control, the utilisation of the area's natural resources and environment, by both the local population and the tourism industry include: the Department of Agriculture, the Department of Wildlife and National Parks, the Department of Tourism, and the Tawana Land Board. The primary policies implemented in the region, which promote the sustainable utilisation and management of the Okavango's natural resources and environment include: the Wildlife Conservation Policy of 1986, the Tourism Policy of 1990, and the National Conservation Strategy of 1990. The Wildlife Conservation Policy of 1986 also facilitated the formulation of the Okavango/Kwando Management Plan of 1992, which resulted in the creation of Wildlife Management Areas (WMAs) and Controlled Hunting Areas (CHAs) in the Okavango region. Both the Wildlife Conservation Policy

of 1986 and the Tourism Policy of 1990 provide for the re-introduction of community involvement in wildlife conservation and tourism through the implementation of Community Based Natural Resource Management projects (CBNRM). The establishment of the Moremi Game Reserve in 1963 was also an important step in the promotion of the conservation of the Okavango Delta and the development of the areas tourism industry.

With regard to natural resource management in the Okavango Delta, Mbaiwa (1999) states that the management of the country's resources and the development and implementation of policies from a centralised body has prevented the local population from playing any significant role in the management of resources in the region. As such, many of the government's policies have little support from the local population and are not considered as being legitimate. Hence they are not as effective, which has also resulted in the development of negative attitudes by local populations towards wildlife management and conservation, as well as the wildlife-based tourism industry.

The ministries also tend to formulate sectorial policies that often conflict with each other during implementation. Moreover, the natural resource use institutions such as the Department of Wildlife and National Parks are placed under ministries which lack the political support to influence the effective management of the country's natural resources (Mbaiwa, 1999). This implies that such ministries lack the relevant administration capacity, infrastructure and knowledge to manage protected areas and wildlife species and to enforce environmental laws and regulations.

Government policies regarding land and resource utilization and management in the Okavango Delta and the country as a whole, are largely formulated and adopted without the full involvement and participation of some of the major stakeholders, notably the local communities. This has effectively resulted in the local population in the Okavango Delta receiving few to no real benefits from the major land use activities in the region, namely tourism and wildlife management. As a result, local communities have developed negative attitudes towards wildlife management and tourism, and do not support the government policies, such as the Tourism Policy of 1990, which dictate the nature of these industries. This situation makes the current

forms of wildlife management and tourism in the region unsustainable over the long-term (Mbaiwa, 1999).

The Tourism Policy of 1990 is the primary government policy behind the development of the country's tourism industry. However, findings in chapter six indicate that this 'high-cost low-volume' tourism policy is out of reach of the local communities and will continue to promote the current exclusionist-elitist divisional forms of tourism present in the Okavango Delta. What is needed, is more employment-led ventures which can be executed through low-impact, higher volume activities such as walking and mekoro (boat) safaris, as opposed to vehicle-lodge operations which do not maximise employment and encourage habitat degradation. As such, tourism would be of greater benefit to local communities if made to promote their small-scale tourist projects instead of the large-scale ventures, which local communities generally cannot manage due to a lack of necessary skills and resources (Mbaiwa, 1999).

Findings also indicate that certain government officials felt that the high-cost low-volume tourist approach was not based on sound environmental assessments, but rather on cost-effective measures. To date, no environmental impact assessment has been conducted and the Tourism Policy is also faced with a number of problems, including a lack of implementation due to a shortage of manpower, limited equipment, and a lack of scientific data. As a result, the policy is ineffective and there is a general lack of monitoring and co-ordination. Concern has been expressed about the high influx of tourists and mobile tour operators in Ngamiland District. The major attraction is the financial and economic returns, and the problems of monitoring and lack of coordination emerge from the undue emphasis on profit and shortage of manpower in the Department of Tourism. Most of the bookings, payments and banking for lodges in the Okavango Delta is done outside of Botswana or in Gaborone, and many of the foreign tourists who visit the Delta have an attitude of "I book and make a payment in Johannesburg, then come to enjoy the sight of the Okavango Delta, buy a t-shirt or basket and then go back home". This indicates the kind of attitude tourists have towards local community development and their apparent insensitivity to the local and environmental situation in host countries, a scenario perpetuated by the Tourism Policy (Mbaiwa, 2002).

Even though Botswana has developed an institutional framework that promotes the development of tourism through the preservation/conservation of natural resources in the Okavango Delta, this institutional policy arrangement fails to effectively address issues of sustainability, particularly in relation to tourism carrying capacities and the effective monitoring of tourism activities in the Okavango. Tourism, as an economic activity, is often associated with the tendency by operators to maximize profits within a short time period, often at the cost of the local environment. As such, once resources are depleted, tour operators and tourists usually relocate elsewhere where there is a new tourist boom and the cycle starts all over again (Butler, 1980; Prosser, 1994). Promoting and ensuring ecological sustainability is, therefore, vital in attempting to limit the negative environmental impacts of tourism in a host destination. This involves placing a limit on the use of an area's resources to ensure that depletion does not occur at a rate faster than the natural processes that renew them (Serageldin, 1993). Poor monitoring by the Departments of Tourism, Wildlife and National Parks, and the Tawana Land Board, and a general failure to improve on management strategies, has led to the emergence of negative environmental impacts by tourism activities in the Okavango Delta.

9.7 The Community Based Natural Resource Management (CBNRM) Programme

In an attempt to address the problem of the lack of local involvement in natural resource management, the Community Based Natural Resource Management (CBNRM) programme was implemented in the Okavango Delta. This gives local communities the chance to actively participate in the utilisation and management of the areas' natural resources, and provides the opportunity for local people to receive economic benefits from the conservation of wildlife and other resources.

The low participation of local investors and local communities in tourism in the Okavango Delta means that much of the revenue generated from tourism accrues to private tour operators and to a lesser extent, the government, in the form of tax revenues and royalties. Apart from wage earnings (for those employed by safari companies) and land rentals (for communities allocated Controlled Hunting Areas), local communities derive little or no benefits from tourism resources in the Okavango

Delta. Even though attempts have been made to draw local communities into the benefit stream through Community Based Natural Resource Management (CBNRM) tourism ventures, the approach is problematic and has, to date, performed poorly. This is largely because local people lack the necessary entrepreneurial and managerial skills, and often motivation, to effectively utilise and manage the resources in their area to produce significant economic benefits and returns, and to participate as equals in the tourism industry. The opportunity for the local control and management of natural resources in the Okavango Delta exists, but to date has not been significantly or successfully exploited by the local communities. As such, negative attitudes towards wildlife and its conservation in the Okavango Delta, and elsewhere, prevail. This suggests that strategies should be developed to emphasize further local participation and enhance the use of local knowledge, materials and labour in order for local people to obtain meaningful benefits from the tourism industry. Local empowerment, especially the provision of entrepreneurial and managerial skills that will lead to more local involvement in the tourism industry, needs to be given priority (Mbaiwa, 2002).

Despite the enthusiasm with which both the government and non-governmental agencies implemented the CBNRM approach since the 1990s, resulting in an impressive array of CBNRM projects across the region, the real success stories remain somewhat isolated, and (unsurprisingly) many difficulties and challenges have emerged. For some (particularly those from the old preservationist school), these mean that the entire approach is fundamentally flawed and should be abandoned altogether. For others, continuing innovation is required if the successes are to be replicated and be made sustainable over the long term (Cassidy and Jansen, 1999).

Elements of the critique of CBNRM include: fewer economic benefits to local people than were anticipated, and therefore fewer incentives for biodiversity conservation; lack of evidence of positive impacts on biodiversity; naïve assumptions about the coherence of rural 'communities', and the underestimation of the difficulties of joint decision making; problems in developing strong and effective local institutions; lack of political commitment to devolution of decision making powers; the often cited capture of benefits by bureaucrats in intermediate institutions; and arguments that

biodiversity conservation and rural development are essentially incompatible (Cassidy and Jansen, 1999).

Other criticisms refer to an overly-narrow approach to development adopted within CBNRM and its lack of integration into wider programmes of land and agrarian reform and 'local economic development'. The tenurial dimensions of these CBNRM programmes often lack sufficient attention. Some critics feel that CBNRM fails to adequately address political dynamics at a variety of levels – local, national, regional and international, and that a 'community' focus is too limiting. In particular, the question of whether or not CBNRM can contribute to transforming the structural inequality inherited from the colonial past has not been adequately addressed to date (Cassidy and Jansen, 1999).

According to Boggs (2002), the groundwork for the implementation of Community-Based Natural Resource Management (CBNRM) in Botswana has been laid out. What remains, therefore, is for all members of the tripartite (government, private sector and local communities) to focus on and honour their respective roles in an attempt to make the CBNRM concept a success and bring about the meaningful participation of citizens in the tourism industry. As the groundwork for community-based tourism has been established, local communities can meaningly benefit from the booming tourist industry in the Okavango Delta if they engage in small-scale and simple projects that match their capabilities and require local skills and knowledge.

Britton (1991) notes that locally controlled, small-scale projects can have a significant impact on raising living standards of the local people. Small-scale community projects may include leatherworks, curio shops, campsites, community tour operations, cultural tourist activities such as the provision of traditional accommodation, traditional dishes, music, dances, walking and boat (mekoro) safaris. According to Carter (1991), large-scale tourism development is often the precursor to small-scale development. This suggests that as tourism development proceeds, indigenous firms and locals gain knowledge and experience in tourism business. Carter (1991) also notes that government planners should coordinate investment infrastructure with the needs of small-scale entrepreneurs and the needs of local communities, paying careful attention to the environmental component. If

adopted, this approach has the potential of making tourism development in the Okavango Delta socially, economically, and environmentally sustainable.

All community-based tourism ventures developed so far are generally inadequate to meet the needs and demands of the rich overseas tourists that dominate the Delta's industry. Perhaps, a more practical and realistic solution to the problem of enclaves and foreign control would be the development of a framework where both enclave and community based tourism are designed to complement, rather than oppose each other, in order to meet the needs of all potential tourist categories that could visit the area (Mbaiwa, 2002).

9.8 Socio-Economic Conditions in the Okavango Delta Region

An understanding of the socio-economic impacts that tend to result from developmental initiatives in Third World regions, is increasingly being viewed as essential to the long-term sustainability of the area (Ryan, 1991). The Okavango Delta has experienced a number of socio-economic impacts as a result of tourism growth in the region since the early 1990s. Unemployment is very high as only 30 percent of the population has formal employment, while Maun has an unemployment rate of 19 percent (Republic of Botswana Statistical Bulletin, 2001). As a result, the region experiences extreme levels of poverty, especially in the rural areas, where most of the residents do not receive basic services such as water and sanitation. Regional development, employment opportunities and the distribution of economic benefits are unequal, and tend to accrue to only about five percent of the local population. The levels of 'rural-urban' migration by subsistence farmers in search of formal employment opportunities, have risen steadily since the early 1990s, resulting in unprecedented social changes in the Delta, and the proliferation of squalid 'shanty' areas in all the larger towns in the region.

The growth of the international tourism industry in the Okavango Delta has impacted on the subsistence strategies of the local communities at all levels. Attempts to minimise the socio-economic impacts of tourism growth in the region need to be undertaken, entailing the reconsideration of current approaches to integrating international tourism industries with Third World economies and societies. The

overriding challenge facing authorities in the Okavango Delta is reducing 'rural-urban' migration levels, rural poverty, inequality and unemployment.

9.8.1 The Socio-Economic Impacts of Tourism in the Okavango Delta Region

Much of Third World tourism occurs in rural areas or draws upon rural resources, and so inevitably leads to socio-economic and cultural changes as well as to the deterioration of the physical environment (Goodman and Watts, 1994). In the Okavango Delta, processes of rural restructuring directly linked to tourism development are dramatically evident. Firstly, the intersection of global utilization patterns and international tourist flows has occured. Rural areas, traditionally production spaces for local populations, have become consumption space for the leisure of non-locals. However, tourists and the indigenous 'other' remain socially, economically and ethnically separate. Driven by tourist demand, imports are increasing so that both production and consumption are imported, the tourist multiplier has diminished and the tension between the local and global continues to grow (Torres, 1996).

In the Okavango Delta region the resentment by local communities of the international tourism industry is growing. Locals increasingly perceive the development of tourism ventures, and the conservation of the areas wildlife and natural habitats, as the 'selling out' of their land and resources, to foreigners, by the Botswana Government. Most Batswana in the Delta experience no tangible benefits from the tourism industry, and hence, fail to see its importance to the region's economy. Due to the loss of land by local people to conservation and tourism, tension between indigenous communities and the global tourism industry in the Okavango Delta continues to grow. According to Allen and Hamnet (1995), compared to the absolute poverty of the majority of individuals in a Third World host community, the tourists seem extremely affluent, which is usually manifest in their appearance and behaviour. In the Okavango Delta most tourists dress in designer safari fashions, and sport the latest hi-tech photographic and wildlife viewing equipment. They frequent the luxury hotels and lodges in the area, where the price of even one meal in such establishments is likely to be more than what a local will be paid in one month (Allen and Hamnet, 1995). This is leading to increasing

xenophobia in the area, which has the potential to alienate the sector, resulting in the loss of foreign investors and economic returns (Ashley, 2000).

As Cooper *et al* (1993) highlight, tourism cannot be exported to consumers. The consumers must visit the destination to experience the tourism product, and in doing so they act as a stimulus for social change. The impact of tourism development, and the resultant 'rural-urban' migration in the Okavango Delta has had extreme social effects on rural local inhabitants and communities. The 'demonstration effect' is a direct social impact, caused by the development of tourism in rural areas. This occurs when tourists influence changes in the behaviour of host communities (Cooper *et al*, 1993). Language is one way in which host communities can remain distinct from the visitors. However, the language of the hosts will inevitably change to accommodate the tourists as members of the host society who learn the language of the tourists are more employable and valuable to the tourism industry (Martha, 1993). Changes in language from traditional dialects to English and Setswana, dress and consumption patterns are evident in all the towns in the region.

With regard to local employment, the Okavango Delta's tourism industry is dominated by foreign ownership, investment and participation, to such an extent that any meaningful participation by local citizens is becoming increasingly impossible. According to Schneider (1993), the tourism industry is seasonal and therefore employs people on a temporary or part-time basis. As Blank (1989) and Williams and Shaw (1991) also highlight, tourism employees are usually laid off work during the low season. As a result, the tourism industry cannot provide secure, meaningful jobs for many local residents, and their bargaining power for better wages and conditions is reduced. The formal employment of Batswana in the Delta's tourism industry consists of low-paying, unskilled labour, which provides little prospect for economic improvement or promotion. The foreign ownership of this sector is increasingly leading to the loss of resource control by the local population, as the industry, and the resources upon which it is based, are reserved for the consumption by non-locals. The foreign domination of the Delta's tourism industry has also led to increased wage differentials between expatriate and local tourism employees. Foreign employees' earn up to 30 percent more than their local counterparts for the same job.

As such, this study has revealed that the development of tourism in the Okavango Delta has done little to economically benefit the local population through the creation of employment. It has instead served to increase 'rural-urban' migration levels, decrease subsistence agricultural production, led to the concentration of unemployed rural migrants on tourist peripheries and increased pressures placed on the region's economy and resources by poverty stricken communities.

9.9 Review of the Role of Tourism in Natural Resource Management in the Okavango Delta

Tyler (1998) considers Developing Countries to be particularly prone to tourism-related environmental degradation, given the need for such countries to generate income and the frequently low priority given to environmental issues. Tananone (1991) suggests that tourism has aided in transferring the ecological problems of the industrialised nations to developing countries. Cater and Lawman (1994) note that tourism in developing countries often occurs at the expense of the host country's biophysical and cultural environments.

Some of the most common negative impacts of tourism on the Okavango Delta's natural resources include: destruction of natural environments, vegetation damage, water pollution, soil erosion and the silting up of water ways; creation of competition for land and resources; loss of access to natural areas; inflation of land values; abandonment of traditional subsistence strategies and rural-urban migration; poaching; destruction of wildlife through habitat loss (fires) and fragmentation, and the deterioration of the natural resource base. It is only through the establishment and recognition of carrying capacities, or limits of acceptable change in tourism development, and the effective monitoring of tourism activities and the enforcement of government policies by the Department of Tourism, Wildlife and National Parks and Tawana Land Board in the Okavango Delta, that the further environmental degradation of the area may be limited and controlled (Mbaiwa, 2002).

Other authors, however, adopt an alternative view, emphasising the actual and potential benefits of tourism, especially with regard to the conservation and protection of natural and built environments. Stankovic (1991) stresses that tourism

is not only a consumer, but also a protector, of the natural environment, which has served to enhance the economic value of some aspects of nature which are of no particular value for other activities.

The view that tourism and environmental conservation are not necessarily incompatible is growing and being increasingly expressed for a wide variety of environments (Hunter and Green, 1995). Furthermore, there are increasing calls for conservationists and the tourism industry to begin to work more closely together; calls based upon the mutual interest of sectors which should be natural allies. Once the environment is recognized as an asset to the tourism industry, a growing need for its preservation becomes apparent. Tourism development is thus dependent on the environment, and necessary measures should be taken in order to maintain, and even improve, the quality of a destination's natural resources. Hence, "the conservation and preservation of natural areas, archaeological sites and historic monuments have emerged as important spillover benefits of tourism. In turn, the protection of these prime resources enhances and perpetuates tourism by maintaining its very foundation" (Mathieson and Wall, 1982, p. 97).

This fact is well illustrated in the Okavango Delta, through the government's commitment to preserving the Delta and its resources, as a result of the economic gains received from the tourism industry, which has developed largely as a result of the area's pristine and natural environment.

Specifically, the positive impacts of tourism on natural resources in the Okavango include: the formation of conservation areas and wildlife reserves and parks; the development and implementation of national and regional policies and Acts promoting tourism through the protection and conservation of natural resources and habitats; the establishment of government departments and institutions tasked with ensuring the sustainable management of natural resources and the environment; the formation and encouragement of community based natural resource management projects; the education of local communities on the preservation and sustainable utilisation of natural resources; increased profitability of resource preservation; development of supportive infrastructure and providing local inhabitants with increased or supplementary incomes through the sustainable utilisation and management of natural resources.

The development of tourism in the Okavango Delta has therefore played both a positive and negative role in the manner in which the areas natural resources are utilised and managed.

Tourism has helped facilitate the preservation and conservation of the Okavango Delta and its resources, yet it has also impacted negatively upon these resources through the activities of tourists and the development of supportive infrastructure in the area.

9.10 Major Land Use Stakeholders and Land Use Conflicts in the Okavango Delta Region

There are three primary stakeholder groups in the Okavango Delta region, namely the Traditional Stakeholders (local communities); Emerging Stakeholders (private sector such as tourism operators, lodge and hotel owners, wildlife conservation groups, the district council and the government); and Surrogate Stakeholders (the world population, future generations, the global ecological resource base). Conflict among these three interest groups arises from competition over the use of the Okavango Delta and its resources, and tensions over the manner in which the area and its resources are currently utilized and managed.

The major land use and resource use conflicts identified in the Okavango Delta region include:

- Conflict between local farmers and wildlife management institutions such as the DWNP and the government over the expansion of agriculture into wildlife areas;

- Conflict between local farmers and the government over the erection of veterinary fences which keep cattle out of the Delta. Many farmers see the Delta as being wasted on tourism and wildlife;

- Conflicts between conservation groups, tourism operators and government over the erection of veterinary fences, as the fences fragment wildlife habitats and cut off migration routes resulting in wildlife losses;

- Conflicts between the tourism sector and local communities over land and resources. Locals see the Delta as the property of the government and foreign tourists;

- Conflicts between local communities and the government over the establishment of conservation areas such as the Moremi Game Reserve;

- Conflicts between the tourism industry and local communities over the expansion of illegal squatter settlements on the peripheries of tourist areas/ facilities;

- Conflict between local communities and wildlife management institutions and conservation groups over the encroachment of human settlements into wildlife areas; and

- Conflicts between the Botswana Government and the Governments of Angola and Namibia over the future use of the Okavango River's water.

These conflicts are aggravated by the lack of a mechanism to prioritise and co-ordinate competing demands, and the fact that the different government ministries and departments also implement conflicting sectoral land use policies. At present, the natural resource management institutions and policies, including those of wildlife, are fragmented into various government ministries and departments and this often results in the lack of co-ordination and harmonization of policies and programmes during implementation. At present there are no effective institutional mechanisms for resolving land use conflicts despite the role played by Land Boards and the Department of Lands in land use (Mbaiwa, 1999).

9.10.1 Prospects for Integrated Resource Management in the Okavango Delta

The land and resource use conflicts amongst the various stakeholders in the Okavango Delta indicate the lack of an integrated management approach that can effectively harmonise all the land use and resource use activities in the district. As highlighted by Furze *et al* (1996), the way in which resource rights are allocated will depend upon the local cultural, political and economic situation in a particular area. It is, however, also clear that the tradition of governmental appropriation and management of all resource rights has, to a large extent, not worked to the benefit of either conservation or local development. This is especially true if they cannot afford to allocate the necessary resources to fund effective management agencies, implement clear and successful policies or put in place sound local and regional checks and balances in the political system.

As noted, institutional conflicts and a lack of co-ordination between ministries with natural resource interests have led to the poor use of resources and stakeholder conflicts in the Okavango Delta. Although the National Conservation Strategy (NCS) was formulated to ensure the sustainable use of environmental resources in the country, it depends on the different sectorial policies in government ministries and departments. The NCS also lacks political influence and support to make any meaningful impact on matters relating to wildlife utilization and management in the Okavango Delta. As a result, the different sectoral land use policies and programmes are not co-ordinated during implementation. This lack of co-ordination and the ensuing conflicts amongst the different stakeholders supports the hypothesis that the current unsustainable resource utilization and management systems in Botswana and the Okavango Delta in particular, are related to the lack of an integrated resource utilization and management policy (Mbaiwa, 1999).

However, the socio-economic conditions in the Okavango Delta are favourable for the integration of wildlife and resource conservation with other economic sectors. The findings show that while local communities traditionally practice agriculture, they recognize that the best suitable land use activity in the area is wildlife conservation and tourism. In fact, livestock and crop production is one of the most significant causes of land use conflicts in the area. Hence, shifting the focus of the local population from subsistence agriculture to wildlife management and tourism would

do much towards conflict resolution in the area. This, however, is only possible if the net benefits from wildlife resource utilization and management are made to exceed those of other land use options in the area, particularly subsistence agriculture (Mbaiwa, 1999).

9.11 Opportunities for the Okavango Delta

The Okavango faces several kinds of pressures. However, the biggest challenge, perhaps, is that it is so difficult to achieve consensus on how the Okavango should be used and managed, and what its future is likely to be. This is because there are so many differences in the use of resources and opinions or perspectives on the value of the river. Angolans mainly use the river for crops, drinking and washing, while in Namibia the river is used largely for watering and grazing livestock, Rundu's water supply, irrigating fields and to provide building materials and fish. In Botswana, the main uses are for tourism and wildlife management. Scales of use and interest also differ, from those of individual rural households to tribal communities, regional administrations, national governments and the international community. The three countries see the river differently as well. Angola is rich in water, and the catchment area is not a priority. Namibia has little water and as a temporary custodian of the river sees the passing flow as an opportunity to be exploited. Botswana also has little water, but has instead invested heavily to extract high profits from tourism in the Okavango, and has no intention of losing its investment or future income. As such, sharing water among so many different needs and perceptions is not easy (Mendelsohn and el Obeid, 2004).

As a result of Botswana's interest in the conservation of the Okavango Delta, and its use of the Okavango to extract high profits through the development and promotion of the Delta as a world-class tourist destination, the Botswana Government ratified the Ramsar Convention and officially registered the Okavango Delta as a Ramsar Wetland of International Importance in April 1997. The Okavango Delta is presently the largest site (Campbell, 1997). The Ramsar Convention was founded in 1971 in Ramsar, Iran, and is one of the oldest international environmental treaties, based on the twin concepts of maintaining the ecological integrity of Ramsar Wetlands and promoting the sustainable use of the wetland resources. In ratifying the convention,

the Botswana government committed itself to two specific conditions, in addition to maintaining the Delta's fragile ecology and promoting sustainable utilisation of its resources. First, that it will consider the protection of the wetland in all national planning and make an inventory of the countries wetland resources. Second, the Botswana government was committed to creating a management plan for the Delta and undertaking any research and monitoring necessary to implement the plan (Campbell, 1997).

The Botswana Government has since initiated the process of developing a management plan for the Okavango Delta, and the design phase is complete and support has been secured to start the development of the plan. The overall goal for the development of an integrated management plan for the Okavango Delta is to integrate resource management to ensure its long-term conservation and thus provide sustained benefits for the present and future well-being of the people. The development of the management plan will hopefully be completed by 2008/09 (Republic of Botswana National Development Plan 9, 2003).

Regardless of the Botswana Government's apparent commitment in conserving the Okavango Delta, the Okavango is less important to the Governments of Angola, Namibia and even Botswana, than one might assume. Firstly, the Basin as a whole is remote from all three of these countries capitals and economic centres – out of sight, out of mind. Secondly, the Okavango offers each country little in the way of food or hydroelectric power (this could change for Namibia if its planned developments go ahead). Thirdly, there are no known mineral resources to provide governments or politicians with good incomes, and lastly, too few people live in the Basin to make the area politically important. All of this is negative, and even cynical, but the reality is that governments are unlikely to pay much attention to the Okavango, particularly when faced with far more severe socio-economic problems within their countries such as HIV/AIDS, poverty and political strife (Mendelsohn and el Obeid, 2004).

There are, however, still many people the world over who would like to see a secure future for the Okavango River system, a future in which water, sediments and nutrients continue to move down the network of rivers unhindered. There is also hope that if the resources are used on a sustainable basis, present generations will

not treat the natural environment in ways that jeopardize the options of future generations. This is demonstrated by the fact that, according to the 224 tourists interviewed in the Okavango Delta, a total of 195 individuals, or 87 percent, stated that the continued existence of the Okavango Delta, in its present state, was important to them. Additionally, most tourists visit the Okavango purely for its natural, unchanged, scenic and pristine wetland environment, and its wildlife populations. As such, the utilisation of the Okavango system and its natural resources in any way that threatens this natural, pristine element, would significantly damage Botswana's tourism industry. Hence, tourism and its associated economic benefits are important tools that can be used in ensuring the long-term protection of the Okavango River Basin (Mendelsohn and el Obeid, 2004).

The first step in securing a future for the Okavango Basin is to enlarge the Okavango's constituency of supporters. The Basin needs to mean more to many more people. The range of benefits derived from the river's natural resources has to be increased, and greater importance must be attached to areas upstream of the Delta, for example through tourism. This is a particular challenge for Angola and Namibia where the number of supporters of the river is small. By contrast, support and acclaim for the Okavango is much greater in Botswana because of the significant gains from the Delta through tourism, and as such the future of the Delta itself is far more secure than the Okavango's upstream areas. However, even here there is a need to broaden its support base. Progress has been achieved by promoting community-based management and profit sharing from wildlife-based tourism to bring benefits to rural people. Even so, they have little official or political influence, and there is a challenge to involve wealthier, more influential Botswana citizens. The greatest challenge, however, is to promote benefits derived from the careful management and use of natural resources across a broad spectrum of Angolan society (Mendelsohn and el Obeid, 2004).

Secondly, land in the Basin needs to be managed more effectively. Most land in the Basin is now communal or tribal land, and hence no one owns the land or takes responsibility for the resources it offers. Mechanisms and structures that enable people to obtain long-term, tangible benefits from land are also lacking in most places (Mendelsohn and el Obeid, 2004).

Thirdly, almost the only interest ever expressed by the Namibian and Angolan governments in the Okavango, is for irrigation, water supply and hydroelectric power schemes. There is room for such developments, but their scope is limited, and the utmost care must be taken to restrict environmental damage. More importantly, alternative uses of the Basin should be sought for Angola and Namibia. The most logical is to greatly expand the tourism industry upstream from the Delta. There is potential for developing (and marketing) the whole Basin as a massive international tourist destination. Even though wildlife attractions are now limited in most areas of Angola and the Caprivi Strip, there is still much to offer in scenic beauty, fishing, remoteness and historical interest. The upper reaches of the Cuito and Cuanavale Rivers still support fair numbers of wildlife, and populations throughout the catchment would increase as a result of protection (Mendelsohn and el Obeid, 2004).

Lastly, most assessments of environmental concerns in the Okavango River Basin have focused on individual developments, such as Popa Falls hydroelectric scheme or the pumping of water to Windhoek. Each of these small projects, when considered alone is unlikely to have a major impact on the Okavango. Rather, it is the cumulative effects of such water uses that are the real problem. For example, of water lost here and there, pollutants added in different places, or new rural settlements along the river, etc. Hence, planning of a more strategic nature is really needed to ensure the long-term health of the river system. Such planning requires an overall assessment of the Okavango that recognises the widely differing views and values that people in various parts of the Basin hold. Such an assessment should highlight and focus on comparative advantages and benefits offered at different places and to different people or land uses (Mendelsohn and el Obeid, 2004).

All three countries should contribute to such an assessment, and the results should be developed into a management plan that becomes binding on all participants. This might be achieved through government ratification of an agreement that upholds the Okavango as an asset to be administered and developed as a single, ecological unit. Several treaties and conventions now offer frameworks for sharing water and managing river basins, but none are strong enough to force the three countries to

manage the Basin co-operatively and wisely. Angola, Namibia and Botswana also formed the Permanent Okavango River Basin Water Commission (OKACOM) in 1994 to promote the joint management of the Basin. More specifically, OKACOM was intended to advise the governments on sustainable development, to co-ordinate investigations and research, to share information and to prevent environmental damage. However, the Commission needs considerable strengthening – both technically and strategically – to perform these functions (Mendelsohn and el Obeid, 2004).

The envisaged Integrated Management Plan being developed for the Okavango River Basin by OKACOM should, in its design, ensure that tourism in the Okavango Delta is sustainable. The management plan must ensure that the use of tourism-based resources benefits present generations without compromising the chances of future generation of benefiting from the same resources. The plan should also ensure that carrying capacity levels of tourist activities and numbers are not exceeded and that limits of acceptable change are observed. In developing the management plan, all stakeholders must be involved or considered in the policy formulation, implementation and monitoring, to increase its chances for success and to ensure the sustainability of the tourism industry in the Okavango Delta.

9.12 Recommendations

Tourism is the chief economic activity in the Okavango Delta, and hence, the further development of the industry is a priority for the Botswana Government, regardless of its impact on local communities and the resource upon which it is based. However, various measures exist, which, if enforced, may limit the negative impacts experienced from tourism.

Tourism can only bring about conservation and the sustainable use of natural resources in the region through the fostering of positive linkages between the conservation/preservation of natural resources for tourism, and economic benefits, particularly to the local population.

The following recommendations are proposed, within the context of this study for the fostering of positive linkages between the tourism and natural resource sub-sectors in the Okavango Delta, so as to minimize tourism's negative impacts on local communities and the environment, and in doing so help preserve/conserve the area and its natural resources.

9.12.1 Empowerment of Government Bodies and the Provision of Equipment

The principal government bodies responsible for tourism development and natural resource management in the Okavango Delta should be empowered and provided with the necessary equipment and political support to effectively carry out their mandates. Particular attention should be paid to the Departments of Tourism, Wildlife and National Parks, Tawana Land Board (and to some extent those of Labour, and Waste Management). Findings indicate that the poor monitoring of tourism activities and implementation and enforcement of government policies by these departments has allowed the industry to expand in a rather uncontrolled manner, hence bringing about the serious negative socio-economic and environmental impacts (Mbaiwa, 2002).

9.12.2 Environmental Monitoring and Management of Tourism Activities

The respective government institutions (e.g., the Departments of Tourism, Wildlife and National Parks, Tawana Land Board, etc.) need to carry out effective environmental monitoring of tourism activities in the Okavango Delta. This must be done to promote environmental preservation and sustainable tourism development (Mbaiwa, 2002).

Many of the tourism facilities, particularly the Department of Wildlife and National Park campsites, are overcrowded with tourists during the peak tourist season, hence impacting negatively upon the environment. Additionally, with the dramatic increase in tourist numbers and facilities over the past two decades, urgent efforts need to be made to control tourism impacts resulting from too many tourists in the area. This suggests that tourism carrying capacities must be established and limits on tourist numbers enforced by the relevant departments to avoid the environmental degradation of the Delta. The 'high-cost, low-impact' tourism policy (Tourism Policy

of 1990) has done much in keeping tourist numbers down. However, existing tourism management and development plans in the area need to be revised as they do not encourage the establishment and observation of carrying capacities. It has been recommended by the Department of Tourism that government should consider making it mandatory for any tourists or visitors into the Okavango Delta to be accompanied by a professional guide/s. Although this recommendation is currently not feasible due to shortages of guides and resources, if implemented, it would allow for the effective monitoring and control of tourist numbers, and help reduce environmental problems caused by tourists and their activities while in the Okavango Delta (Mbaiwa, 2002).

The problems associated with the failure by tourism operators to follow proper waste management guidelines need to be addressed urgently. As the Okavango Delta is an environmentally sensitive area with a high water table and sandy soils, the potential for the pollution of ground water resources due to poor liquid waste disposal techniques is high. Additionally, solid waste disposal is also often not carried out in accordance with government requirements. Many of the tourist facilities in the Okavango Delta have resorted to burning solid waste and litter, which has led to an increase in bush fires in the area, which, as discussed, is a serious problem in the Okavango Delta. Current government regulation states that all waste from camps and lodges in the Delta should be transported to, and disposed of in, existing landfill sites in Maun, or other larger towns such as Shakawe. However, this is not being observed, as most of the waste is disposed of at the tourist site. As such, the enforcement of legislation controlling both solid and liquid waste disposal in the Okavango Delta needs to be given greater attention by the government (Mbaiwa, 2002).

9.12.3 Future Research into the Causes, Effects and Control of Bushfires in the Okavango Delta

An investigation into the causes, effects and control of bushfires in the Okavango Delta is urgently needed. Fires are a socio-economic and environmental hazard and are increasing throughout the area, particularly during the dry season months of July to October. The dry season is important to both the tourism industry and local people, as it is the time when the river floods and is also the peak tourist season.

Activities common at this time include hunting, photographic tourism, and bush clearing for molapo cultivation. It is alleged that these activities encourage the burning of areas of the Delta for economic purposes. However, a comprehensive study must be carried out to confirm the cause of bushfires in order to enable the management and control of this problem. At present, there are no preventative and control measures in place to manage the fires and their impacts. As such, sensitive areas are being repeatedly burnt, year after year, with the Fire Control Unit in the Ministry of Agriculture being unable, due to a lack of staff and resources, to attend to this problem (OPWT, 1998).

9.12.4 Local Participation in the Tourism Industry

Issues regarding citizen and local participation in the tourism industry need to be addressed. The foreign ownership and control of the Okavango Delta's (and the rest of Botswana's) tourism industry, as well as the repatriation of tourism revenue needs to be considered. A revue of the current tourism policy is needed and the development of pro-active government policies or programmes focusing specifically on local participation is required if Botswana citizens are to become economic stakeholders and players in the areas tourism industry. Additionally, community empowerment and mobilization is essential if the Community Based Natural Resource Management (CBNRM) programme is to be successful in the Okavango Delta. The Botswana Government needs to provide local communities with the necessary entrepreneurial and managerial skills, through the involvement of Non-Governmental Organisations (NGOs), in order to manage and run community-based enterprises independently.

Compared to NGOs, the government is not well placed to facilitate community participation in tourism, as illustrated by the failure of the Department of Wildlife and National Parks (DWNP) in effectively implementing CBNRM. The Department of Wildlife and National Parks should play an advisory role in community-based organizations in their efforts to benefit from tourism and to complement NGO efforts when the need arises. NGOs are better placed than the government in facilitating community training in the tourism industry. The government should use NGOs to reach out to local people, and resources spent by the government on local communities should be channeled through NGOs. Additionally, NGOs should be

used to help local communities identify local and international markets for tourism products such as craftwork. Local communities need to develop tourist projects that use locally available knowledge, skills and materials, such as leatherworks, curio shops, campsites, community tour operations, cultural tourist activities, traditional accommodation and food, and boat (mekoro) safaris (Mbaiwa, 2002).

9.12.5 Local Participation in the Decision-Making Process in Tourism/Resource Sector

Local community participation in decision-making regarding tourism and wildlife/resource management in the Okavango Delta is an important aspect of sustainable tourism development. It has been noted that local communities do not play a major role in decision-making regarding tourism development or resource utilization and management, nor do they receive any significant benefits from tourism or resource management in their surroundings beyond a relatively modest number of jobs (Mbaiwa, 2002).

Effective and sound natural resource management and monitoring of tourism activities requires the involvement of those living with the resources since they are better placed and are economically motivated to monitor the use of these resources on a daily basis. This means that, to a certain extent, the decentralization of tourism resources in the Okavango Delta to the district and to the local communities, should occur, and should also incorporate rights over land use which will, in the long run, enhance the commitment of the local people. Once rural communities have access to, and experience meaningful benefits from tourism and natural resource preservation, they should feel obliged to use them sustainably. Mention has been made of the so far unsuccessful efforts of the Departments of Wildlife and National Parks and Tourism to monitor tourism activities in the Okavango Delta.

The participation of local communities, based on their ownership of resources, would empower local people to monitor such resources themselves. Studies have shown that once local people own resources and receive economic benefits from the preservation of such resources, they are capable of effectively ensuring the sustainability of natural resources. Local communities often possess local knowledge of natural resource use that can be fused together with modern scientific

knowledge to bring about sustainable tourism development in the area. The involvement of local communities in tourism management is, therefore, assumed to be an important aspect of social equity and sustainable tourism in the Okavango Delta (Mbaiwa, 2002).

9.12.6 The Establishment of a National Tourism Board

A National Tourism Board should be established to facilitate effective tourism development not only in the Okavango Delta, but in Botswana as a whole. The National Tourism Board should direct the development of tourism as well as the utilization of tourism-based resources such as wildlife and fish resources in the Okavango Delta. In the establishment of a tourism board, there is a need to place much emphasis on the composition, objectives and mandate of the Board. Members of the board should include all stakeholders in the tourism industry. Particular attention should be given to local people in the Okavango Delta, tour operators, the Department of Wildlife and National Parks, the Department of Tourism, the Land Boards and NGOs. The establishment of a National Tourism Board will help encourage the integrated management of the Okavango Delta, its natural resources and tourism industry (Mbaiwa, 2002).

9.12.7 Establishment of a National Parks Board

It has been suggested that there is also a need for the establishment of a National Parks Board to facilitate effective wildlife utilisation and management in the country. The proposed National Parks Board should be made up of sub-boards (for each game park/reserve) to determine the utilisation and management of natural resources in a particular protected area. Membership of the boards should comprise the necessary stakeholders in the wildlife and tourism industry such as the Department of Wildlife and National Parks, the Department of Tourism, the local communities and the private sector. The concept of a National Parks Board presupposes that all protected areas need management plans that recognise the importance of integrating tourism, wildlife conservation and community development. Management plans in protected areas in Botswana should, therefore, be designed to ensure the involvement of all stakeholders involved in natural resource utilisation and management (Mbaiwa, 1999).

9.12.8 Land Use Conflict Resolution Mechanisms

In light of the land and resource use conflicts amongst the various land users and stakeholders in the Okavango Delta, there is need for a proactive land use conflict resolution mechanism to be put in place. This can be in the form of an effective institution or policy to specifically deal with land use conflicts in the area. This initiative, however, needs to be the collective responsibility of all the land users in the Okavango Delta, especially local communities. Sustainable resource utilisation is only possible when restrictions agreed upon by all parties are enforced. The local communities should, where possible, administer the enforcement of laws. Laws and institutions become sustainable when they come from the local people and other stakeholders and are enforced by them. This reality can therefore be used as the basis for the development of a land use conflict resolution mechanism in wildlife areas (Mbaiwa, 1999).

To address the problem of the lack of involvement by local communities in land and resource management, as discussed in chapter seven, and the ensuing conflicts, negative perceptions and apprehensions, some form of political and economic decentralisation by the central government and private sector must occur in the Okavango Delta region. Political decentralisation should provide a basis for agreements and the development of more local control over the natural resource base. Furthermore, the relations between the Department of Wildlife and National Parks, district governments and communities are important, particularly with respect to control over and access to natural resources. It is increasingly clear that natural resources tend to be managed more sustainably when local communities and individual households have clear and secure control over their resources and can influence how they should be used. Secure access to natural resources is therefore a pre-requisite for investment by households and communities in land improvements. This will not only help ensure the sustainability of production, but in turn reduce the conflicts over resources (Wood, 1993; Mbaiwa, 1999).

At an international level, there is an urgent need to address the conflicts regarding the future use of the Okavango's water. The development of an integrated management plan, that considers all stakeholders, and prioritises the preservation of the system and its resources, must be developed and effectively implemented for

the entire Okavango River Basin, by the Botswana, Namibian and Angolan Governments. Alternative uses for the Okavango catchment area in Angola, and the Okavango River in Namibia, such as the development of the whole of the Okavango River Basin as a international tourist destination, must be considered in attempting to secure a sustainable future for the basin as a whole.

9.12.9 Review of Current Livestock Production Policies

Livestock production policies in Botswana conflict with wildlife management policies, particularly the erection of veterinary fences since the 1960s. It is recommended that there should be a review of all current livestock production policies (e.g., the Tribal Grazing Land Policy and the Fencing Policy) since they do not consider wildlife as a viable land use option. The review should take into account the social and environmental implications of agricultural policies in the country. It is also recommended that Social Impact Assessments (SIAs) and Environmental Impact Assessments (EIAs) precede all future agricultural developments, particularly in terms of livestock and the erection of more veterinary fences (Mbaiwa, 1999).

9.12.10 Proposed Developments Must Include Social Impact Assessment (SIA) and Environmental Impact Assessment (EIA) Components

Findings show that, to date, most development programmes and policies implemented in wildlife management, protected and sensitive areas, such as the Okavango Delta, are carried out without SIAs or EIAs being conducted. As such, comprehensive SIAs and EIAs must be conducted for all existing and future developments in Wildlife Management Areas, Controlled Hunting Areas and protected areas in the Okavango Delta (and the rest of the country). This will help to resolve some of the land use conflicts in the area, and minimise the negative impacts of uncontrolled development in the Delta region (Mbaiwa, 1999).

9.13 Future Research

This study focused on only one tourist area in Botswana, namely the Okavango Delta, in which wildlife- and wilderness-based tourism is the predominant economic

activity. There is a need for studies regarding tourism and natural resource management to be conducted in Botswana's three other major tourist destinations, namely the Central Kalahari Game Reserve in central Botswana, the Chobe area in north-eastern Botswana, and the Tuli Block in eastern Botswana. This is to enhance the understanding of the role that tourism plays in natural resource structures within the context of Botswana. Additionally, it will also be useful to assess the relationship between tourism and natural resource management structures in other African countries such as Kenya, Tanzania, Namibia and South Africa, which have thriving wildlife/wilderness based tourism industries.

There is much scope in Botswana for future, in-depth studies on local community participation in the tourism and natural resource sub-sectors throughout the country. In attempting to bring about sustainable resource management and utilisation in the country, the role local communities play, and their level of participation in decision making and management institutions and structures is of paramount importance. There is increasing recognition that the past forms of 'top-down' and 'elitist' resource utilisation and management structures are not sustainable in the long-term. As such, an understanding of the role and function of local communities in bringing about sustainable resource management is crucial to national and local administrative bodies within the tourism and natural resource sectors. Further studies of local participation in natural resource management has great importance to both Botswana, and other countries throughout the world where tourism makes significant contributions to the national economy.

There is also a need for studies in Botswana which explore the development of the tourism industry from a political perspective. Focus must be placed on tourism as a form of western 'imperialism', examining tourism as an exemplification of western capitalist hegemony, and conceptualising the growth of the international tourism industry and the development of Third World countries as mass tourism destinations through the theories of globalisation and development theory.

9.14 Summary and Conclusion

This study presented the opportunity to investigate the impact of tourism development on the utilisation and management of natural resources in the Okavango Delta in northern Botswana.

Enhancing the positive linkages between tourism, economic benefits and natural resource utilisation in the Okavango Delta region represents an important means to stimulate increased natural resource and environmental protection and improve the distribution of tourism benefits to rural communities. The conversion of local subsistence agricultural communities into economic stakeholders and beneficiaries of the tourism industry and the natural resources upon which it is based, will go a long way in promoting environmental and resource sustainability, reduce conflict, and help ensure the long-term protection and conservation of the Okavango Delta and its resources. As such, there is an urgent need for recognition that, the only way to secure a future for the Okavango Delta in its present form is to ensure that the economic benefits derived from the preservation and conservation of the area outweigh the benefits gained from the use of its resources for consumptive purposes.

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APPENDIX ONE

TOURISM, NATURAL RESOURCE AND RELATED SOCIO-ECONOMIC STUDIES CONDUCTED IN THE OKAVANGO DELTA REGION

TITLE	AUTHOR	DATE	CATEGORY
University of Botswana Students Surveys of Okavango Villages	Odell, M. J.	1976	Social study
Botswanacraft and Hambukushu Basketry: The effects of a major marketing operation on a group of African people, their traditional craft, and the natural resources	Terry, E.	1984	Socio-economic/ Resource study
Economic Impact of Wildlife-Based Tourism in Northern Botswana	Borge, L., Nelson, W. C., Leitch, J. A. and Leistritz, L. F.	1989	Tourism/ Socio-economic study
Botswana's Water Plan hits the Rocks	Armstrong, S.	1991	Resource study
When Paradise is a Swamp	Armstrong, S. and Bannister, A.	1991	Wildlife/ Resource study
Cows, Diamonds and the Okavango	Earth Island Journal	1991	Resource study
The Okavango Delta Peoples of Botswana: The Bugakwe, Dxeriku, Hambukushu, Wayeyi and Xanekwe Peoples	Bock, J.	1993	Socio-economic study
The Okavango Delta	Dolnick, E.	1993	Resource study

Descriptive Diagnostic Survey Report for Ngamiland Agricultural Region	Makhwaje, E., Patrick, C., Tacheba, G. and Modiakgotla, E.	1995	Resource study
Protecting Threatened Habitats	Paxton, R. O.	1996	Conservation/ Resource study
Okavango Elephants	Ben-Shahar, R.	1997	Wildlife/ Resource study
Southern Africa's Oasis may turn to Dust	Matloff, J.	1997	Resource study
The Power of a few: Bureaucratic decision-making in the Okavango Delta	Neme, L. A.	1997	Socio-economic/ Political study
The Okavango Delta: Its Conservation through International Agreements as a matter of urgency	Ross, K.	1997	Conservation/ Resource study
Which Way the Okavango?	Rothert, S.	1997	Conservation/ Resource study
Economic Development and Cultural Change among the Okavango Delta Peoples of Botswana	Bock, J.	1998	Socio-economic study
Environmental Change over two Decades Since Dredging and Excavation of the Lower Boro River, Okavango Delta, Botswana	McCarthy, T. S. and Ellery, W. N.	1998	Resource study
Some observations on the geomorphological impact of hippopotamus (Hippopotamus amphibious L.) in the Okavango Delta, Botswana	McCarthy, T. S., Bloem, A. and Ellery, W. N.	1998	Wildlife/ Resource study

Prospects for Sustainable Wildlife Resource Utilisation and Management in Botswana: A case study of East Ngamiland District	Mbaiwa, J.	1999	Resource study
The Structure of Social Relations Among Female Savanna Baboons in Moremi Reserve, Botswana	Silk, J. and Seyfarth, R. M.	1999	Wildlife/ Resource study
Floodplain vegetation in the Nxaranga Lagoon area, Okavango Delta, Botswana	Bonyongo, M. C., Bredenkamp, G. J. and Veenendaal, E.	2000	Resource study
Seasonal Flooding in the Okavango Delta, Botswana-recent history and future prospects	McCarthy, T. S., Cooper, G. R. J., Tyson, P. D. and Ellery, W. N.	2000	Resource study
The Economic Impacts of Tourism on the Local People: the case of Maun in the Ngamiland sub-district, Botswana	Ndubano, E.	2000	Tourism/ Socio-economic study
Spatial aspects of the reproductive and feeding biology of the striped robber, brycinus lateralis (Pices: Characidae), in the Okavango Delta, Botswana	Booth, A. J. and McKinlay, B. W.	2001	Wildlife/ Resource study
Crocodiles of the Okavango	Earthwatch Institute Journal	2001	Wildlife/ Resource study
The Benefits and Problems of Tourism in the Okavango Delta	Mbaiwa, J.	2001	Tourism study

The Topography of the Okavango Delta, Botswana, and its tectonic and sedimentological implications	McCarthy, T. S., Gumbricht, T. and Merry, C. L.	2001	Resource study
The Sociology of Change: The Okavango Delta Peoples of Botswana	Bock, J. and Johnson, S. E.	2002	Socio-economic study
The Impact of Tourism on Agriculture in the Okavango Delta, Botswana	Harrison, P.	2002	Tourism/ Resource study
The Socio-Economic and Environmental Impacts of Tourism Development on the Okavango Delta, north-western Botswana	Mbaiwa, J.	2002	Tourism/ Socio-economic study
The Shaping of San Livelihood Strategies: Government Policy and Popular Values	Taylor, M.	2002	Social study
Life History and the Competitive Environment: Trajectories of Growth, Maturation, and Reproductive Output Among Chacma Baboons	Johnson, S. E.	2003	Wildlife/ Resource study
Influence of Season Flooding on Soil Total Nitrogen, Organic Phosphorus and Microbial Populations in the Okavango Delta, Botswana	Mubyana, T., Krah, M., Totolo, O. and Bonyongo, M.	2003	Resource study

State Interests and Multilateral Cooperation: thinking strategically about achieving 'wise use' of the Okavango Delta system	Swatuk, L. A.	2003	Resource study
Desertification in the Ngamiland Communal First Development Area	Mogodisheng, S. B. M. and Dube, P. O.	2003	Resource study
The Okavango River Basin – A Case Study	Talukdar, K.	2003	Socio-economic/ Resource study
Community Based Tourism and Prospects for Sustainable Livelihoods: The Case of the Okavango Polers Trust in Botswana	Sørensen, F. L.	2003	Tourism/ Socio-economic study
The Success and Sustainability of Community-Based Natural Resource Management in the Okavango Delta, Botswana	Mbaiwa, J. E.	2004	Socio-economic/ Resource study
The Every River has its People Project	Odendaal, N.	2004	Socio-economic/ Resource study
A social and economic survey on the relationship between anthropogenic fire distribution, settlements, landuse practices and ethnic background in the seasonal wetlands of the Okavango, Botswana	Tacheba, B.	2005	Resource study

APPENDIX TWO: QUESTIONNAIRE

QUESTIONNAIRE FOR TOURISTS STAYING IN THE OKAVANGO DELTA AND PANHANDLE AREA REGARDING THEIR OPINIONS AND ACTIVITIES IN RELATION TO THE REGIONS' NATURAL RESOURCES AND TOURISM INDUSTRY

1. What nationality are you?
2. What country are you presently residing in?
3. Is this your first visit to Botswana?
4. Are you taking part in a package tour or an individually/self guided tour of the Okavango area?
5. If you are taking part in a package tour, do you feel that the price charged for the tour is:
   - Low
   - Medium
   - High
   - Extremely High
6. How many days are you spending in the Okavango area (which includes Maun)?
7. Please tick which of the following you stayed at/will be staying at while in the Okavango area (which includes Maun):
   - Hotel
   - Lodge
   - Safari Camp
8. In total, how many different hotels/lodges/safari camps are you staying at during your visit to the Okavango region (which includes Maun)?
9. What are your opinions on the prices charged at the hotels/lodges/safari camps you stayed at during your visit to the Okavango?
   - Low
   - Medium
   - High
   - Extremely High

10. Is the condition of the environment surrounding the hotel, lodge or safari camp important to you?
11. What are your personal opinions on the condition of the environment surrounding the hotels/lodges/safari camps in the Okavango region?
    - The area is in a pristine, unspoiled condition?
    - The area is moderately disturbed or damaged?
    - The area is extremely polluted, damaged and degraded?
12. Is the availability of the opportunity to view wildlife in their natural habitat important to the quality of your stay in the Okavango Delta?
13. Do you feel that the conservation and preservation of the wildlife in the Okavango region necessary to preserving the area as a prime tourist destination?
14. Do you feel that the number of hotels, lodges and safari camps built in the Okavango region should be controlled and kept at a minimal due to the fragile nature of the wetland?
15. Have you, or do you intend to participate in any fishing activities while in the Okavango region?
16. If yes, have you, or do you intend to hire a boat from which to fish out in the river channels, or do you intend to only fish from the banks/boat jetties of the accommodation facilities at which you are staying?
17. Do you intend to go on a scenic aeroplane flight over the Okavango Delta?
18. Did you, or do you intend to go on any scenic/wildlife viewing boat or mekoro rides while staying in the Okavango region?
19. Is the availability of the opportunity to go on boat or mekoro rides important to the quality of your stay in the Okavango region?
20. If undertaking any guided wildlife/bird viewing boat trips or drives, do you expect the guides to take you as close to the wildlife/birds as possible?
21. Did you, or do you intend to purchase any locally crafted souvenirs while staying in the Okavango region?
22. Is the availability of the opportunity to purchase locally crafted souvenirs important to the quality of your stay in the Okavango region?
23. Did you, or would you be interested in visiting any local community based tourism ventures (i.e. tourist ventures that are owned and run by local communities in the area) that offer local cultural experiences?

24. Did you consume, or have any desire to consume any of the local traditional foodstuffs or dishes while in the Okavango region?
25. Do you feel that your experiences in the Okavango region were satisfactory in terms of:
    - the price paid for the holiday?
    - the standard of accommodation facilities?
    - the condition of the environment?
26. Is the experience of being able to visit unpopulated and remote natural areas in the Okavango region important to you?
27. Is the continued existence of the Okavango Delta, in its present natural and pristine state important to you?
28. Do you intend on returning to the Okavango region in the future?

APPENDIX THREE

LIST OF HOTELS, LODGES AND SAFARI CAMPS THAT WERE CONSIDERED IN THIS STUDY

Name of Facility	Type of Facility	Name of Facility	Type of Facility
1. Riley's Hotel	Hotel	41. Gubanare Camp	Safari Camp
2. Sedia Hotel	Hotel	42. Duba Plains Camp	Safari Camp
3. Drotsky's Cabins	Lodge	43. Sandibe Camp	Safari Camp
4. Shakawe Fishing Lodge	Lodge	44. Xakanaxa Camp	Safari Camp
5. Guma Island Lodge	Lodge	45. Jacana Camp	Safari Camp
6. Okavango River Lodge	Lodge	46. Ivory Camp	Safari Camp
7. Island Safari Lodge	Lodge	47. Kiri Camp	Safari Camp
8. Crocodile Camp	Lodge	48. Chitabe Camp	Safari Camp
9. Maun Lodge	Lodge	49. Chitabe Trails Camp	Safari Camp
10. Nxamaseri Fishing Lodge	Lodge	50. Ebony Camp	Safari Camp
11. Khwai River Lodge	Lodge	51. Motswiri Camp	Safari Camp
12. Oddballs Lodge	Lodge	52. Gomoti Camp	Safari Camp
13. Thamalakane Lodge	Lodge	53. Starling's Camp	Safari Camp
14. Xugana Island Lodge	Lodge	54. Kanana Camp	Safari Camp
15. Motsentsela Tree Lodge	Lodge	55. Shindi Camp	Safari Camp
16. Modumo Lodge	Lodge	56. Vundumtiki Camp	Safari Camp
17. Guma Lagoon Fishing Camp	Safari Camp	57. Kwetsani Camp	Safari Camp
18. Audi Camp	Safari Camp	58. Qwaapu Safari Camp	Safari Camp
19. Maun Rest Camp	Safari Camp	59. Semetsi Camp	Safari Camp
20. Makwena Safari Camp	Safari Camp	60. San-ta-wani Camp	Safari Camp
21. Camp Okuti	Safari Camp	61. Xudum Safari Camp	Safari Camp
22. Vumbura Camp	Safari Camp	62. Kwara Camp	Safari Camp
23. Vumbura Little Camp	Safari Camp	63. Kujwana Safari Camp	Safari Camp
24. Camp Okavango	Safari Camp		
25. Abu Camp/Elephant Safaris	Safari Camp		
26. Rann's Safari Camp	Safari Camp		
27. Jedibe Island Camp	Safari Camp		
28. Xeta Fly Camp	Safari Camp		
29. Xeta Trails Fly Camp	Safari Camp		
30. Eagle Island Camp/Xaxaba Camp	Safari Camp		
31. Jao Camp	Safari Camp		
32. Mombo Camp	Safari Camp		
33. Little Mombo Camp	Safari Camp		
34. Camp Moremi	Safari Camp		
35. Delta Camp	Safari Camp		
36. Chiefs Safari Camp	Safari Camp		
37. Gunn's Camp	Safari Camp		
38. Kwara Camp (Bird Safaris)	Safari Camp		
39. Pom Pom Camp	Safari Camp		
40. Tanuga Camp	Safari Camp		

APPENDIX FOUR: QUESTIONNAIRE

QUESTIONNAIRE FOR MANAGERS OF HOTELS/LODGES/SAFARI CAMPS IN THE OKAVANGO DELTA AND PANHANDLE AREA REGARDING THEIR OPINIONS AND ACTIVITIES IN RELATION TO THE REGIONS' NATURAL RESOURCES AND TOURISM INDUSTRY

1. What is the name of this hotel/lodge/safari camp?
2. How many years has this facility been in operation?
3. What is the nationality of the owner of this hotel/lodge/safari camp?
4. What is the average number of tourists staying in this accommodation facility each month?
   - <10
   - 10-20
   - 21-30
   - 31-40
   - >41
5. What activities does this hotel/lodge/safari camp offer to tourists?
   - scenic/wildlife viewing boat rides/trips into the Delta?
   - scenic/wildlife viewing mekoro rides/trips into the Delta
   - fishing trips/opportunities for tourists?
   - hunting trips/opportunities for tourists?
   - game drives?
   - bird viewing opportunities?
   - scenic walks?
   - scenic aeroplane flights over the Delta?
6. Does this accommodation facility have its own boats that tourists can hire for fishing or scenic/wildlife viewing rides in the Delta?
7. Does this hotel/lodge/safari camp hire local Motswana guides or boat drivers?
8. In total, how many black Motswana staff members does this accommodation facility currently employ?
9. Does tourist demand dictate the types of boating, fishing, hunting or game viewing opportunities offered by this hotel/lodge/safari camp?

10. Does this hotel/lodge/safari camp purchase locally crafted souvenirs to sell to tourists?
11. Is the demand by tourists for locally crafted souvenirs high?
12. Does this hotel/lodge/safari camp have a restaurant?
13. Does this restaurant offer locally caught fish (bream) on the menu?
14. If so, where do you get this fish from?
15. Does this hotel/lodge/safari camp offer any other local traditional foodstuffs or dishes to tourists?
16. What are your personal opinions on the Botswana Government's Tourism Policy of 1990, which promotes 'high cost, low volume' tourism in the Okavango Delta?
    - Satisfied with the policy (give reasons).
    - Dissatisfied with the policy (give reasons).
17. Do you personally feel that there is sufficient infrastructure present in the Okavango region to support the tourism industry?
18. Do you personally feel that the Okavango area as a whole is already saturated with tourist facilities, tourist activities and tourists?
19. Do you personally feel that there should be unlimited development of tourism facilities in the Okavango region as long as there is demand for such development?
20. Do you personally feel that the development of the tourism industry in the Okavango Delta is having a negative socio-cultural impact on the local inhabitants of the Okavango region? (Give reasons)
21. Do you personally feel that the development of the tourism industry is having a negative environmental impact on the Okavango Delta? (Give reasons)

APPENDIX FIVE: QUESTIONNAIRE

QUESTIONNAIRE FOR LOCAL INHABITANTS LIVING IN THE OKAVANGO REGION REGARDING THEIR OPINIONS AND ACTIVITIES IN RELATION TO THE AREAS NATURAL RESOURCES AND TOURISM INDUSTRY

Name of village/town:

Age of interviewee:

Sex of interviewee:

1. Are you formally employed?
2. If yes, where do you work/what do you do?
3. If no, what activities do you do to make a living?
4. Have you lived in this town/village your whole life?
5. If no, when did you move here; where did you come from; and why did you move?
6. Do you/your family eat fish caught from the Okavango?
7. If yes, who catches this fish/where do you get it from?
8. How often do you eat fish?
9. Is this fish you/your families main source of meat?
10. Do you or the household in which you live receive any benefits from wildlife in the Ngamiland District?
11. If you and your family do not receive any benefits from wildlife, who do you think the wildlife in Ngamiland District benefits?
12. Do you think it is important for local communities to participate in wildlife management in the Ngamiland District? (Give reasons)
13. Do you think that the provision of social services and infrastructure (e.g. schools, shops, clinics, tarred roads, banks, petrol stations, electricity) in Maun and the rest of Ngamiland District was directly influenced by the development of the tourism industry in the Okavango Delta region?
14. If no, what do you think this provision of social services and infrastructure is a result of?
15. Do you think that the development of the tourism industry in the Okavango Delta is having a negative impact on the region's local inhabitants/communities? (Give reasons)

16. Do you think that the development of the tourism industry is having a negative impact on the Okavango Delta's environment? (Give reasons)